0 0002 08049 02

level B

ATH WORKSHOP

■ Robert W. Wirtz
■ Morton Bouel
■ Max Beberman
■ W. W. Sawyer

CURRICULUM
QA
135
W793
1964
lev.B
CURR

Robert W. Wirtz

Morton Botel

Max Beberman

W. W. Sawyer

level B

MATH WORKSHOP

REVISED EDITION

L. Roland Genise
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"Numo" Sketches

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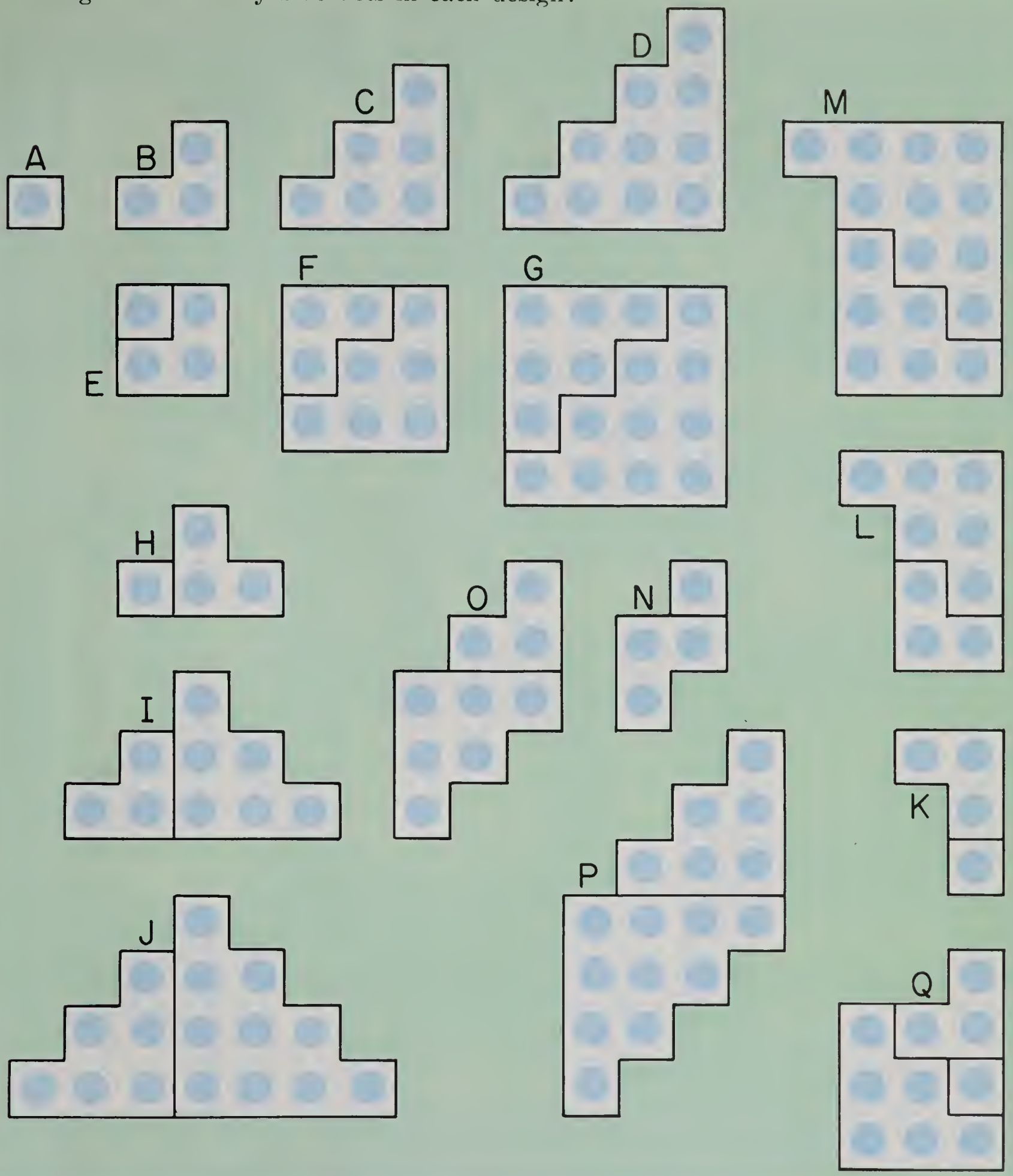
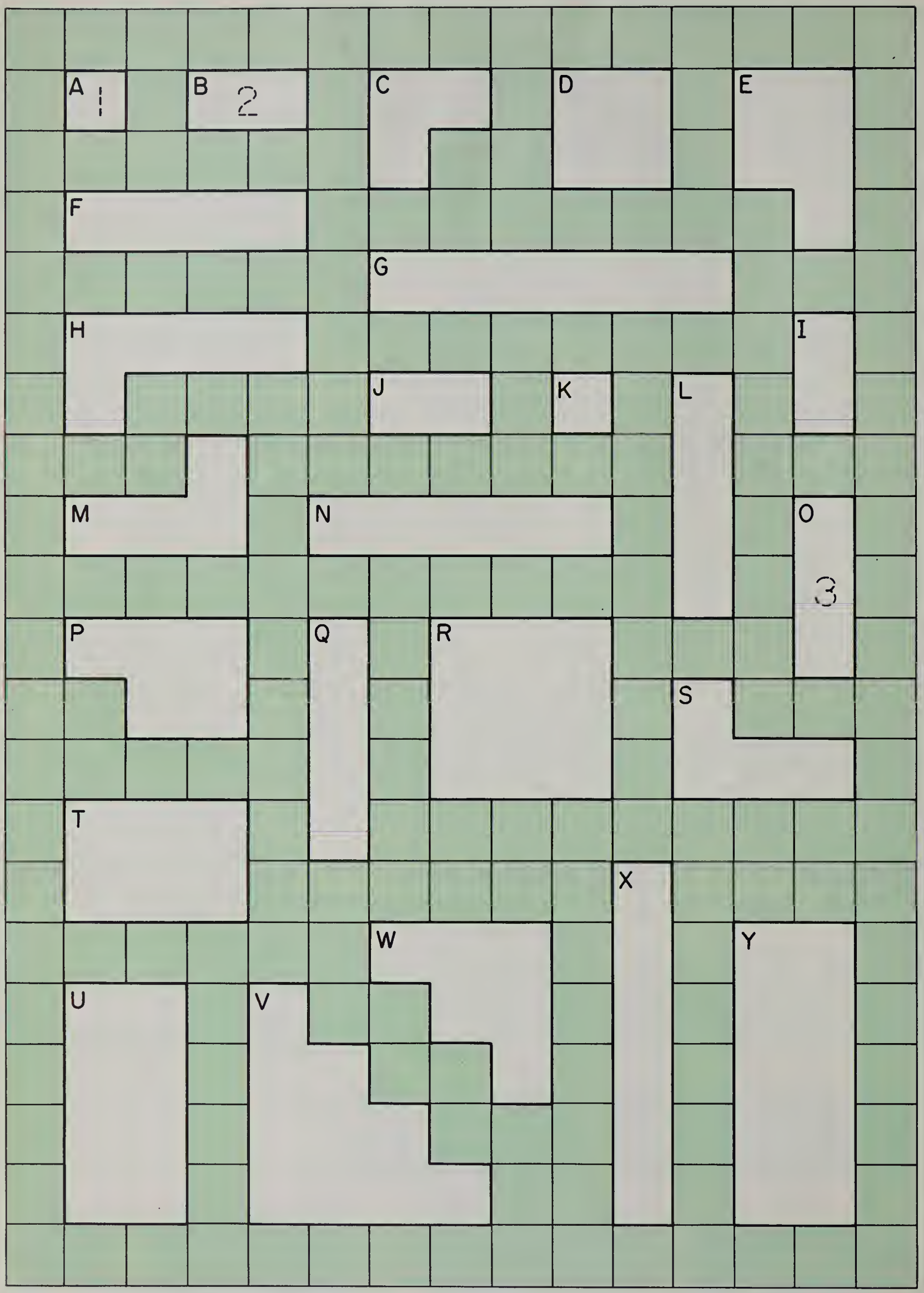
Counting — How many blue dots in each design?



A	B	C	D	E	F	G
1	3					

H	I	J	K	L	M	N	O	P	Q

463143


A
1
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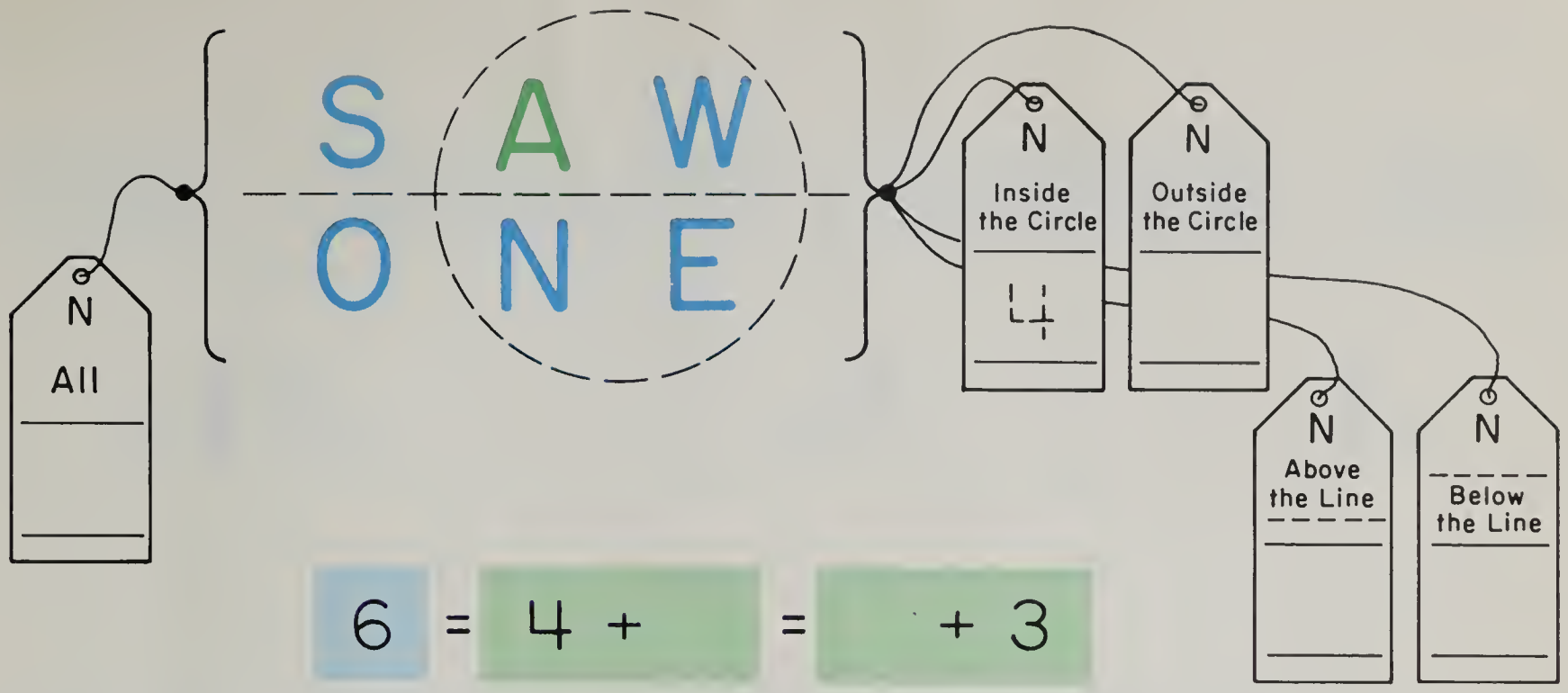
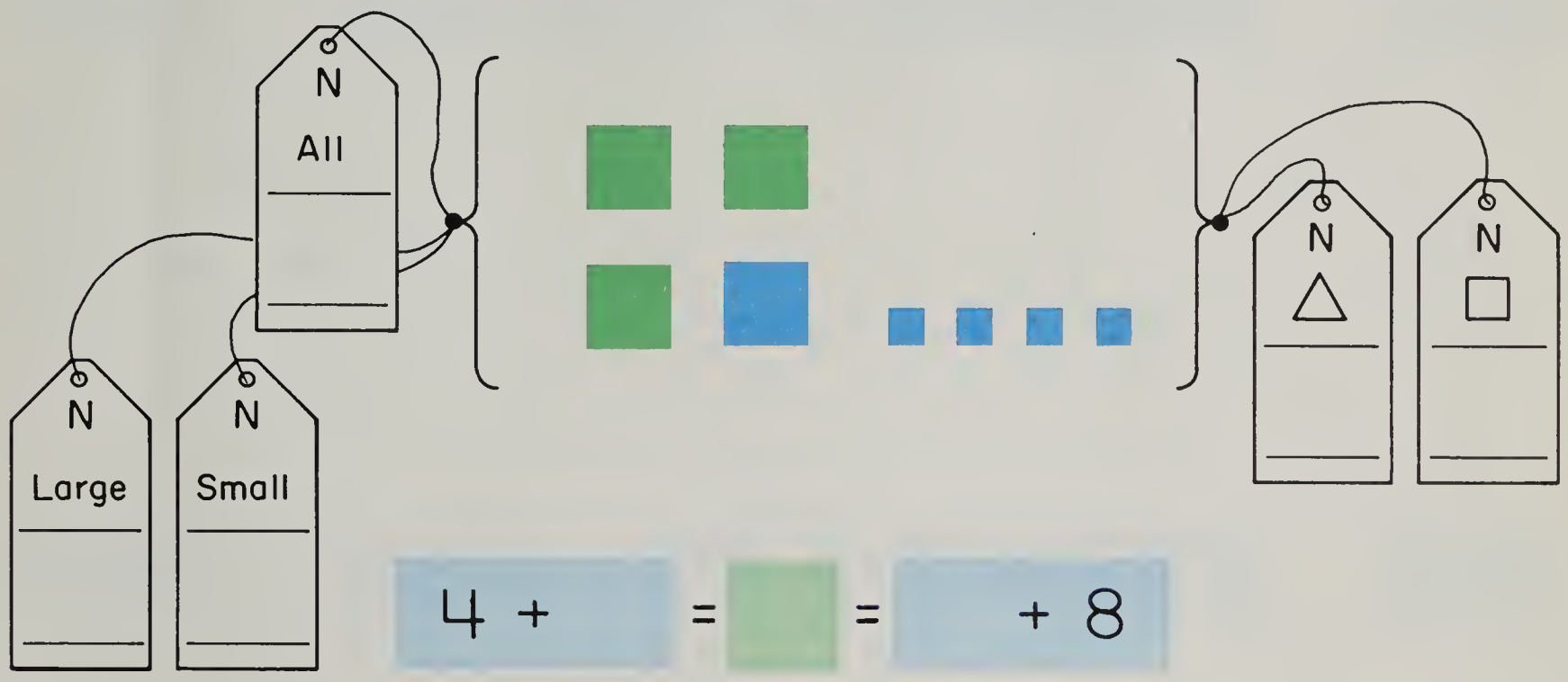
V





What's My Rule?

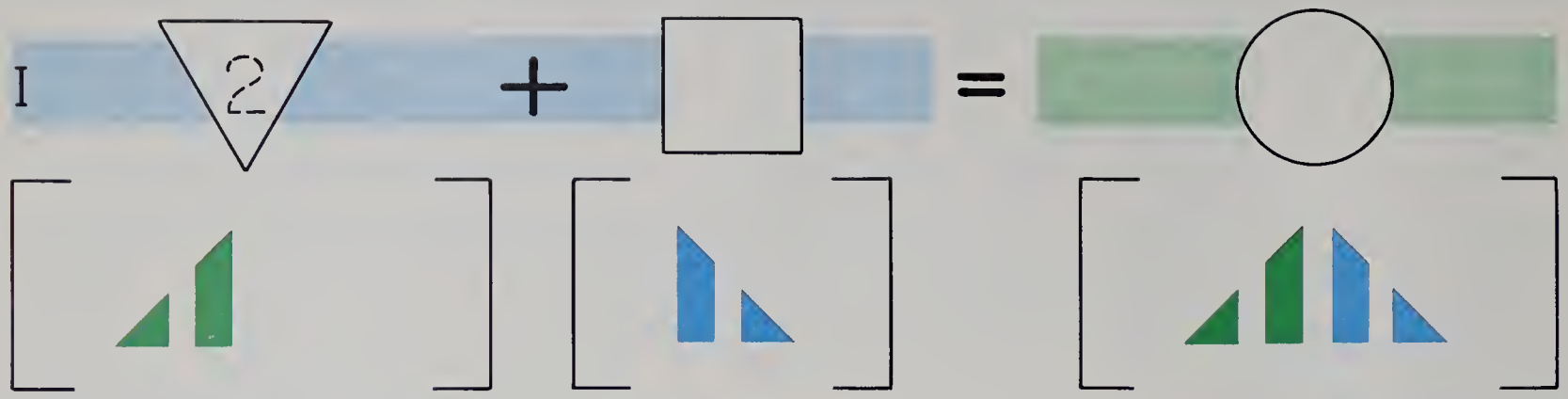
A.

x	2	5	1	7	9	14				29
x + 1	3	6	2				17	19	20	

B.

x	6	2	4	9	1	10			20	30
x − 1	5	1					12	20		

I



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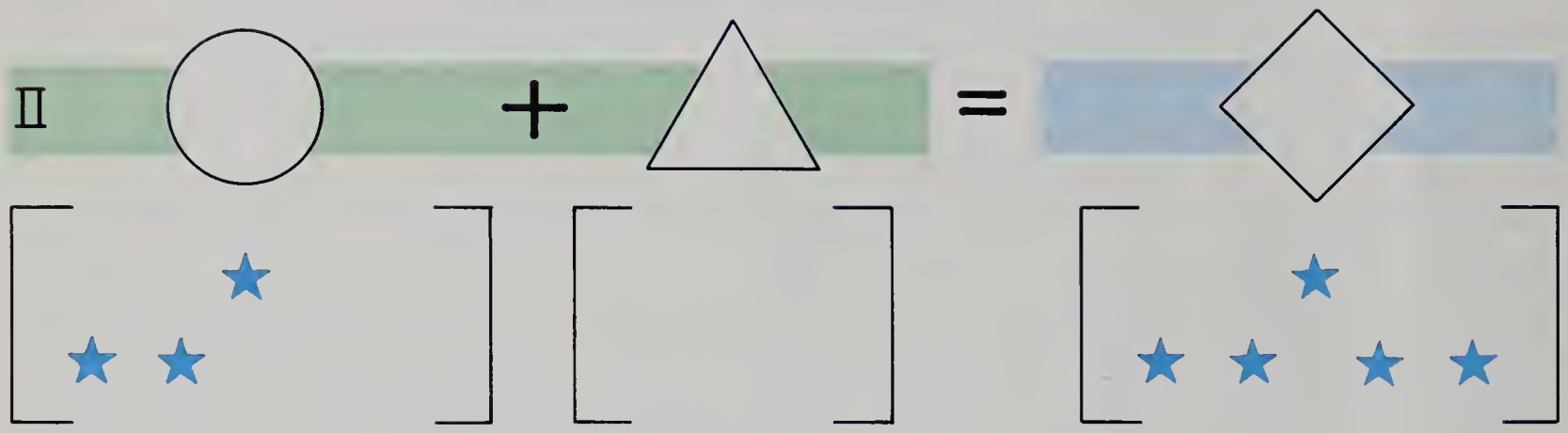

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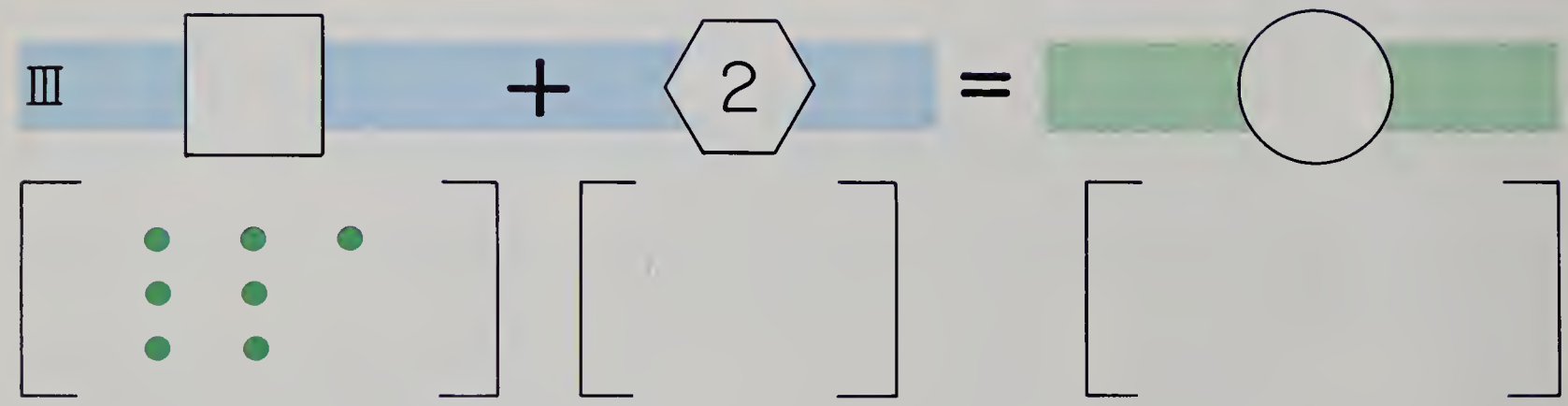

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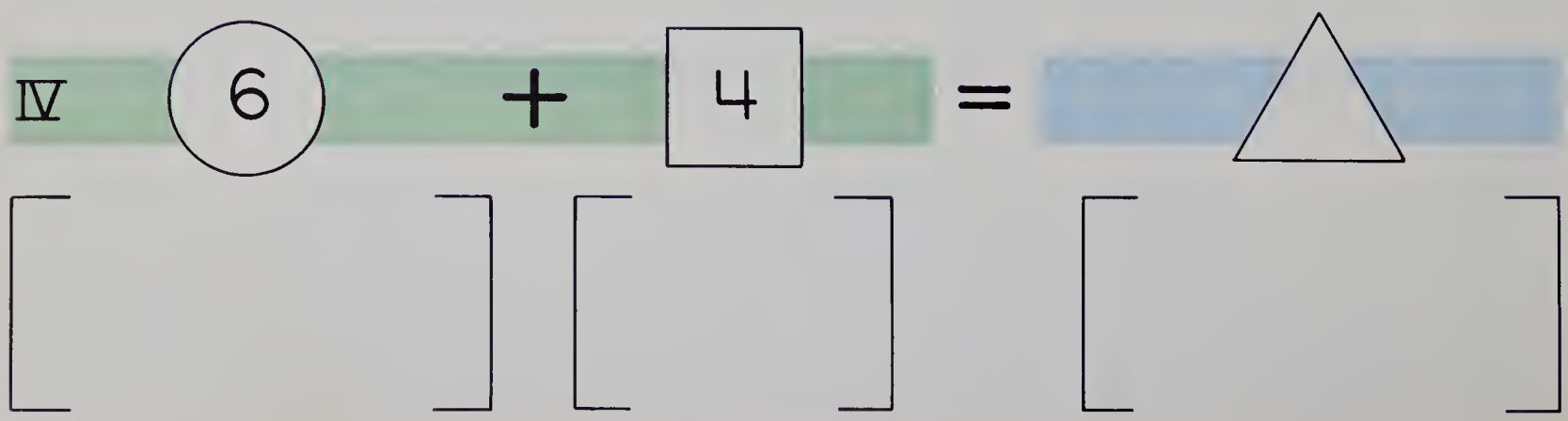
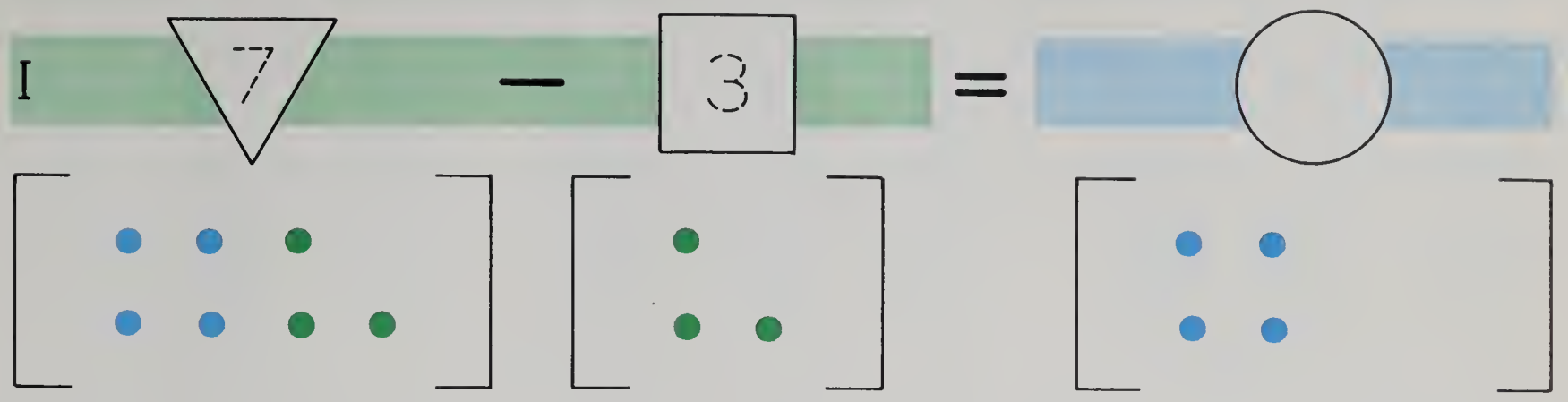
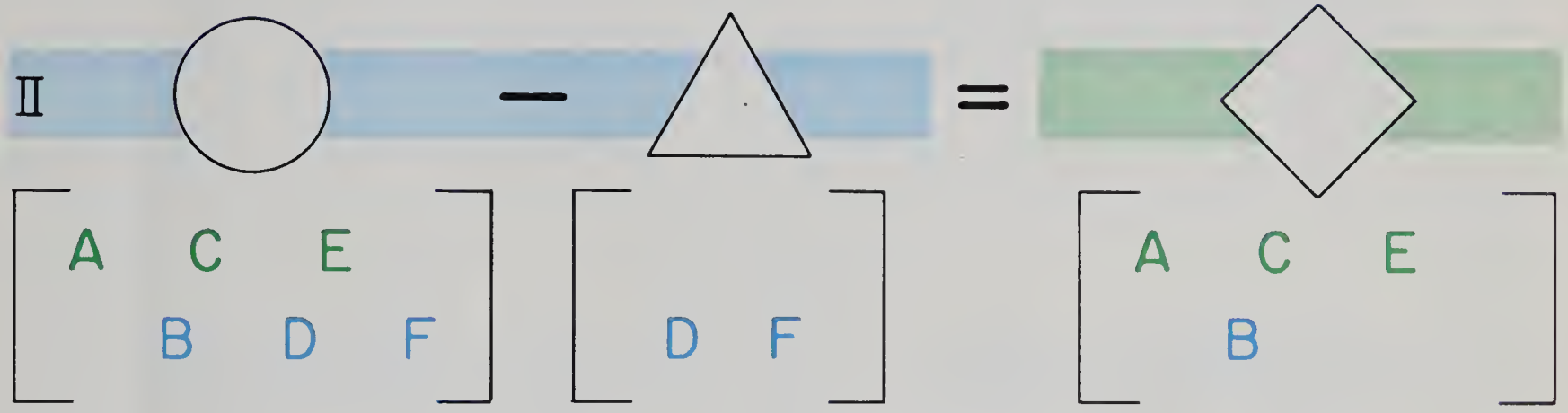
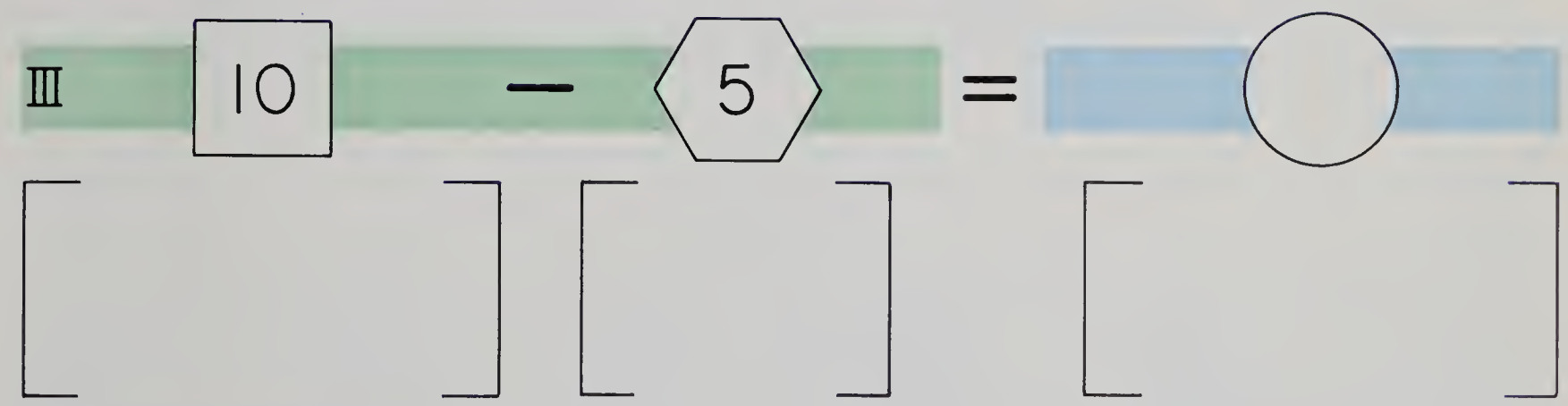








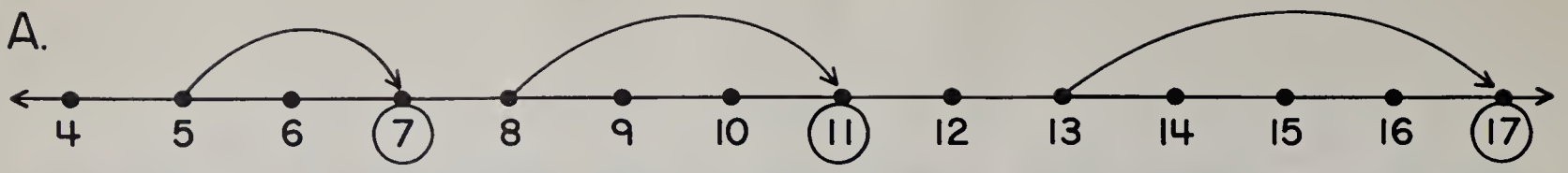
What's My Rule?

A. 15, 16, 17, 18, ___, ___, ___, ___, ___, ___ ...

B. 16, 15, 14, 13, ___, ___, ___, ___, ___, 7 ...

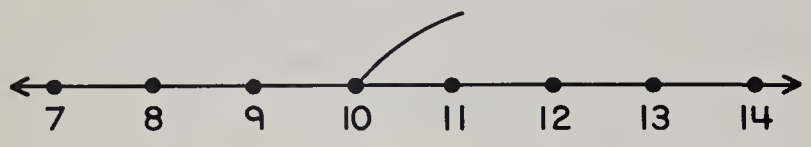
C. 0, 2, 4, 6, ___, ___, ___, ___, ___, ___ ...

A.



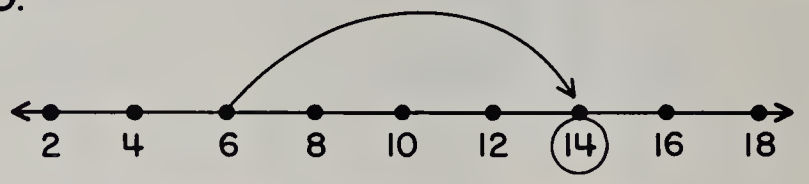
5 + ☐ = ☐ 8 + ☐ = ☐ ☐ + ☐ = ☐

B.



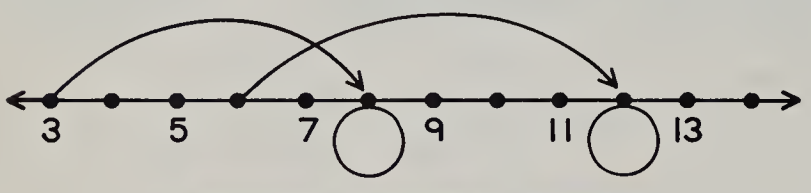
10 + 3 = ☐

C.



☐ + ☐ = ☐

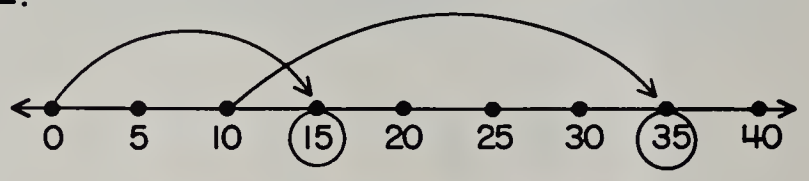
D.



3 + ☐ = ☐

☐ + ☐ = ☐

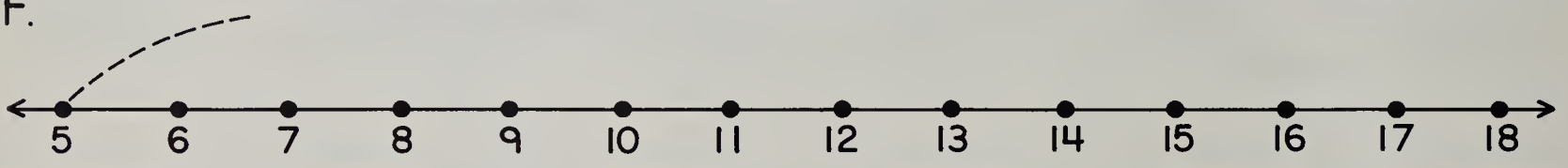
E.



0 + ☐ = ☐

☐ + ☐ = ☐

F.

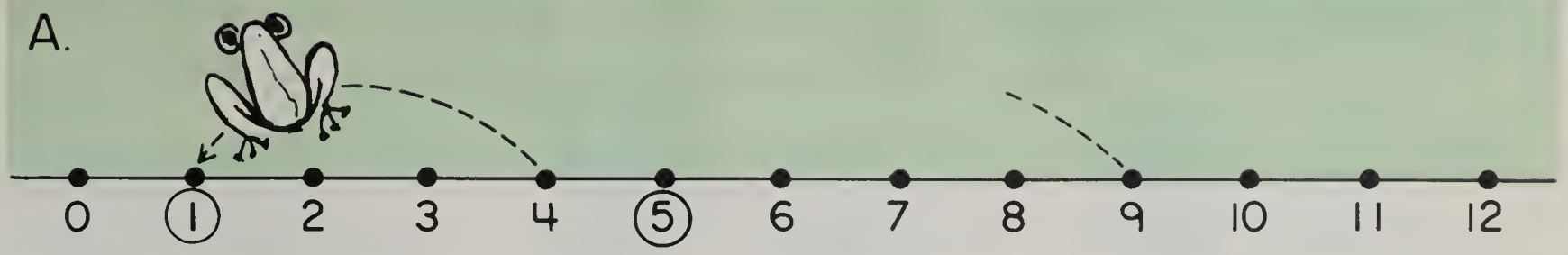


5	8	7	9	
+ 7	+ 5	+ 6	+ 8	+ ☐	+ 7
☐	12	☐	14	16	☐

G. What's My Rule?

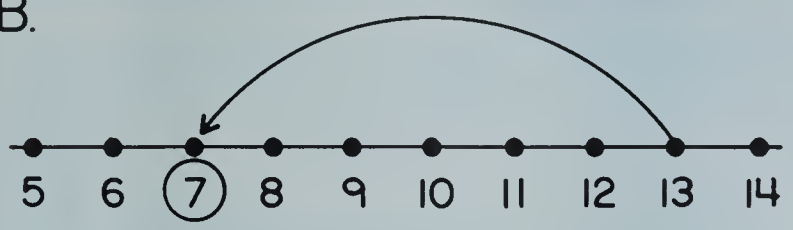
n	0	3	6	1	8	9		18		29
n + 2	2	5	8				16		29	

A.



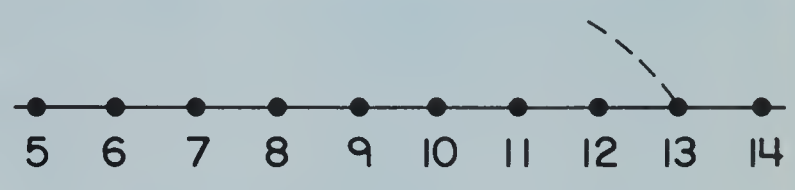
4 - 3 = 1 9 - 4 = 12 - = 10

B.



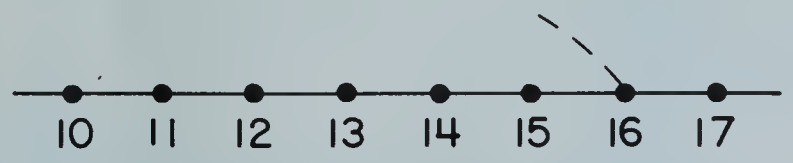
13 - 6 = ⬡

C.



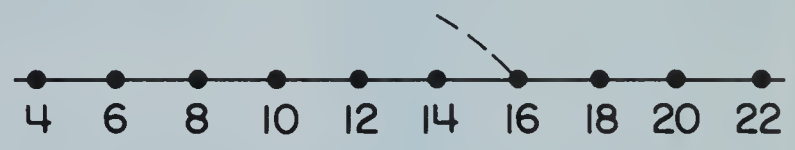
13 - ⬡ = 6

D.



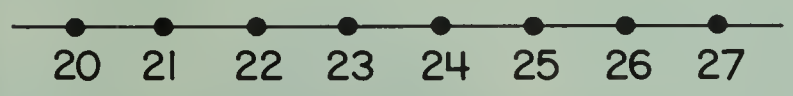
⬡ - △ = 11

E.



⬡ - 11 = △

F.



25 - 4 = ◯

27 - 5 = ⬡

G.

o'clock

HOW MANY LETTERS?

I

add	3
subtract	8
total number of letters	11

II

Monday	
Tuesday	
total	

III

January	
February	
March	
total number of letters	

IV

seven	
o'clock	
total	

V

Wednesday	
Thursday	
total	

VI

April	
May	
June	
total	

VII

plus	
minus	
equals	
total	

VIII

Friday	
Saturday	
Sunday	
total	

IX

July	
August	
September	
total	

X

October	
November	
December	
total	

What's My Rule?

XI

n	3	7	8	11		
n - 2	1	5			18	29

XII

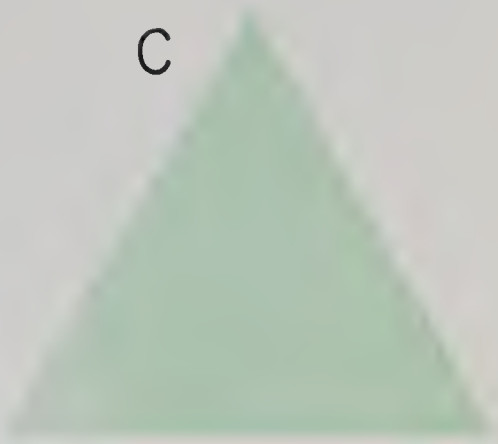
x	3	0	5	10		
x + 10	13	10			17	25

LARGEST — IN-BETWEEN — SMALLEST

A

B

C



D

E

	LARGEST	IN-BETWEEN	SMALLEST
SQUARES	G		
CIRCLES		I	
TRIANGLES			
HEXAGONS			

F

G

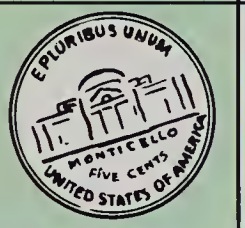
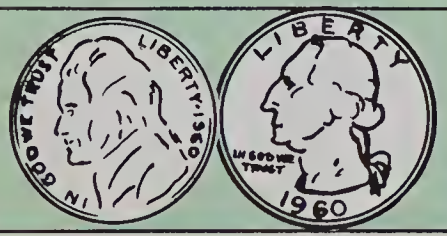
H

I

J

K

L

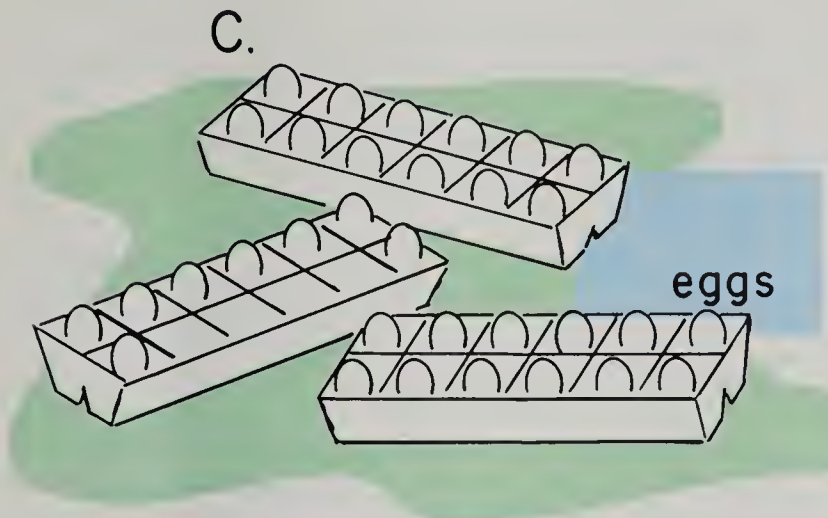
+					
	3¢				
	7¢				
					

HOW MANY?

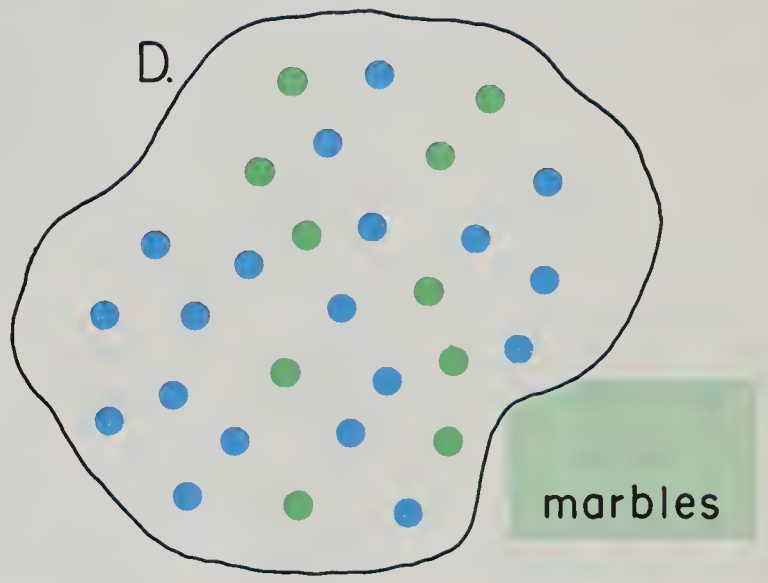
A.

B.

C.



D.

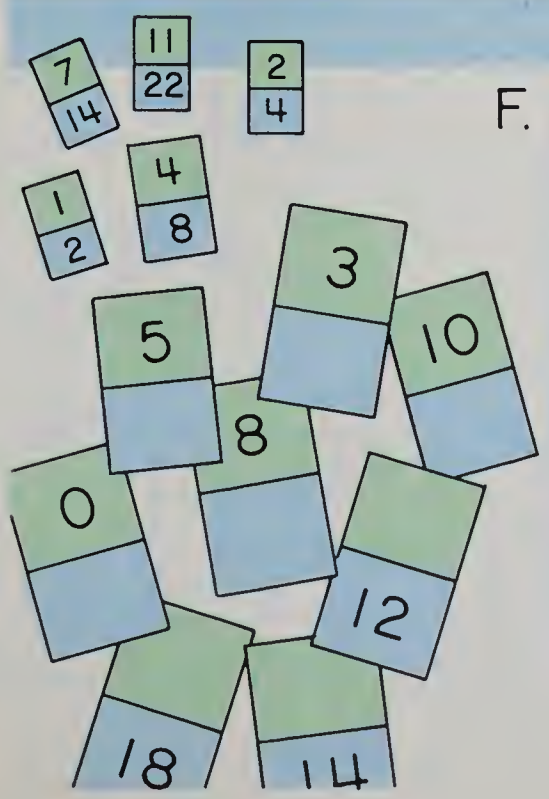


letters

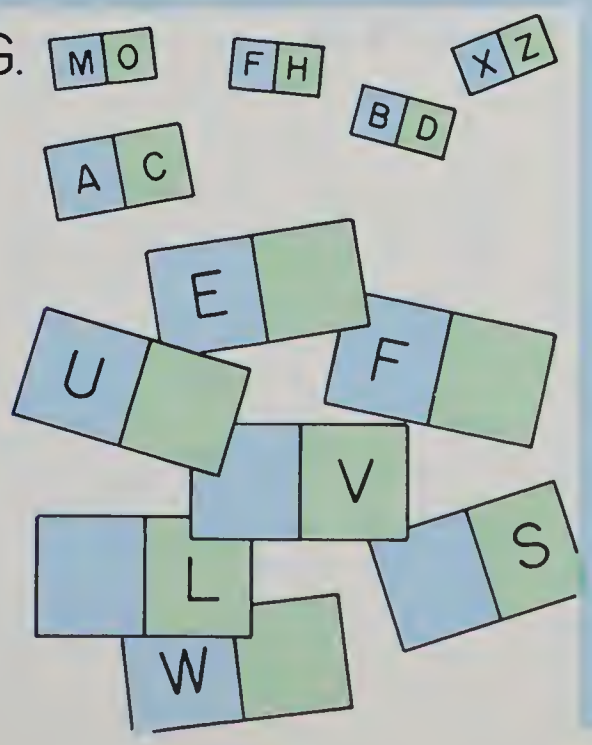
E.

What's My Rule?

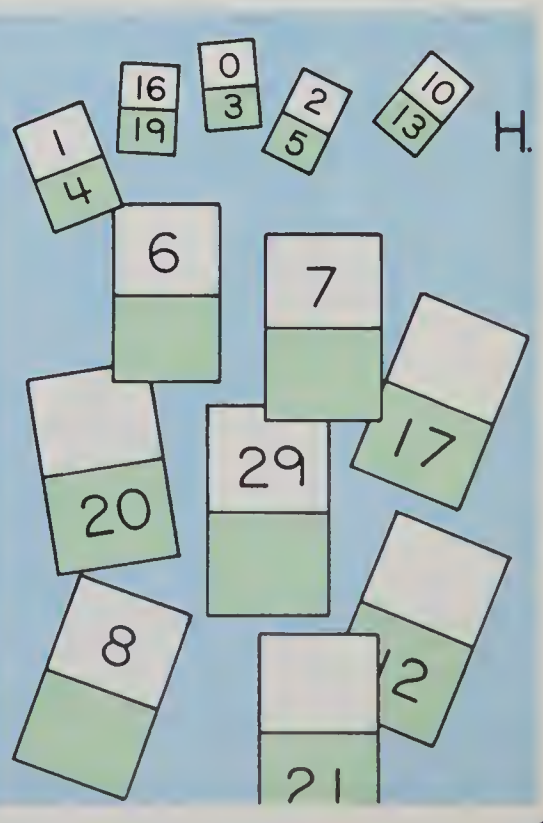
F.



G.

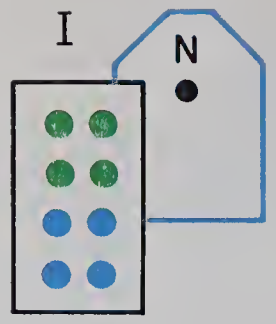


H.



+	2	4	8
2	4		
4			
8			

I



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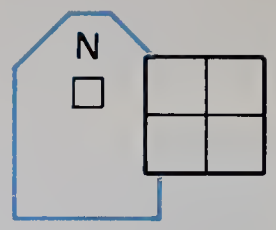

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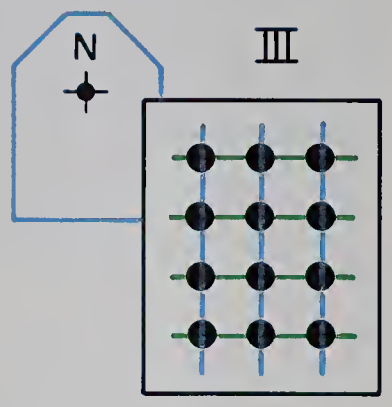

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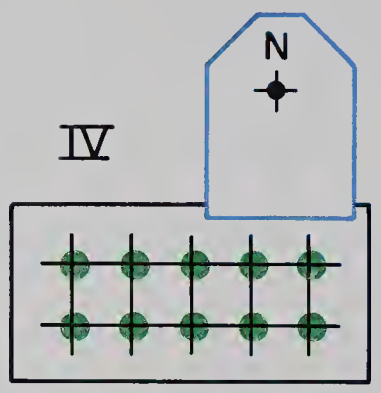

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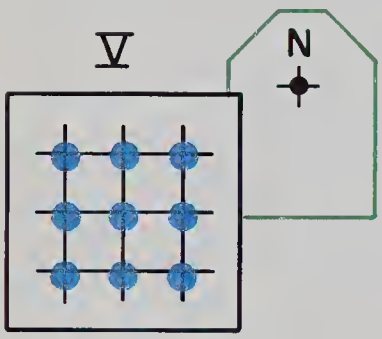

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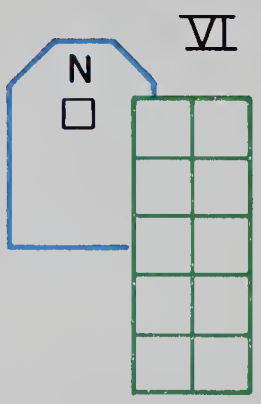

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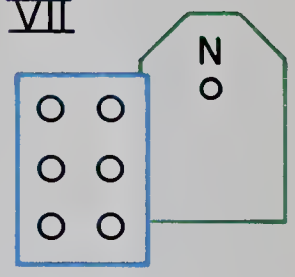
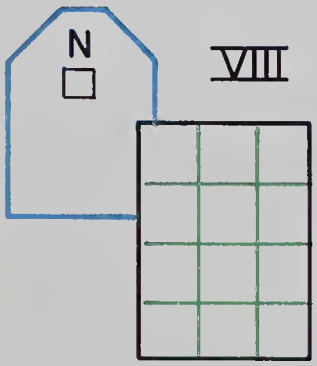


VIII



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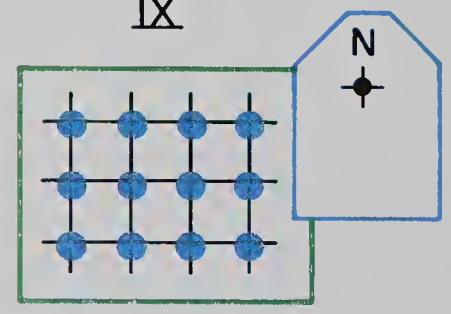
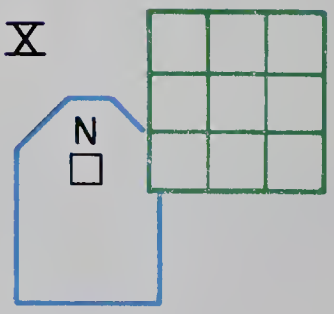
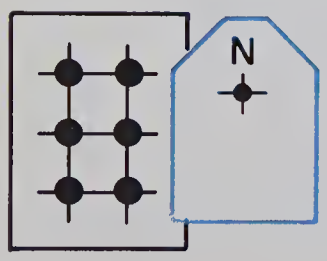


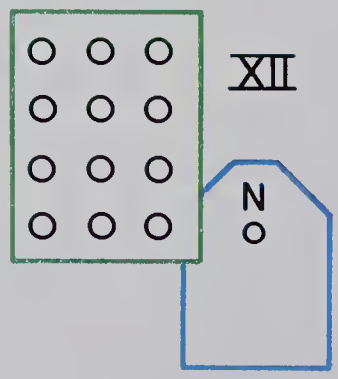
X



XI



XII



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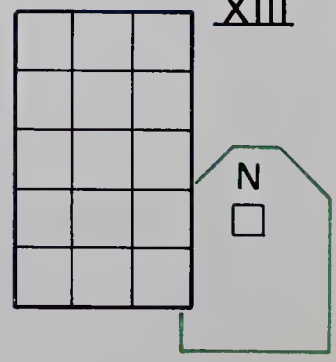
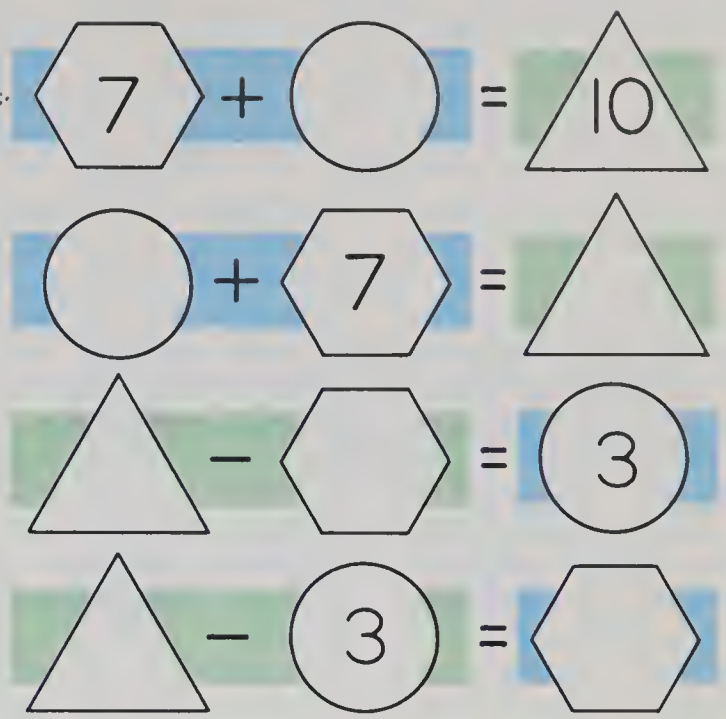


I.

8 + 5 = ___ 7 + ___ = 10

12 − ___ = 4 ___ + 5 = 15

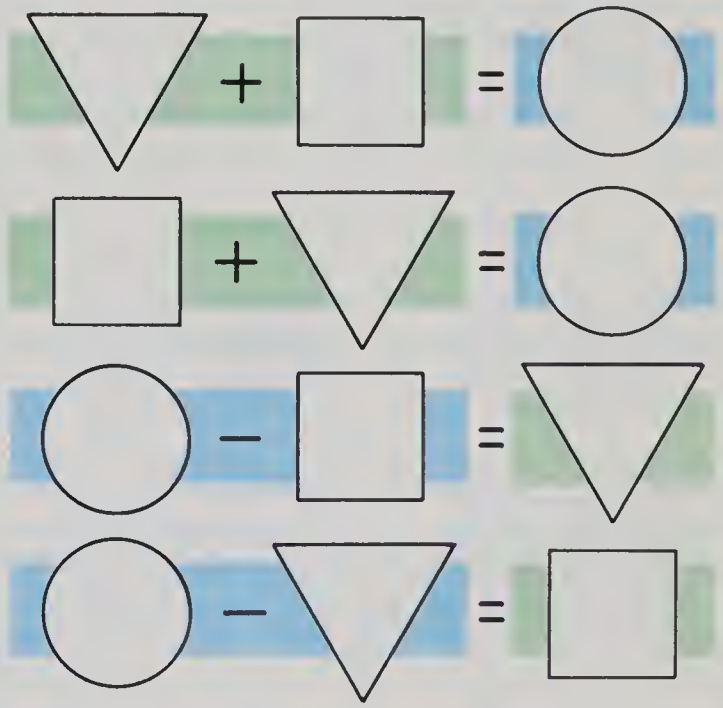


I have a nickel and two pennies. It costs a dime for the movies.

II.

9 + ___ = 15 ___ + 8 = 16

17 − 8 = ___ 10 − ___ = 2

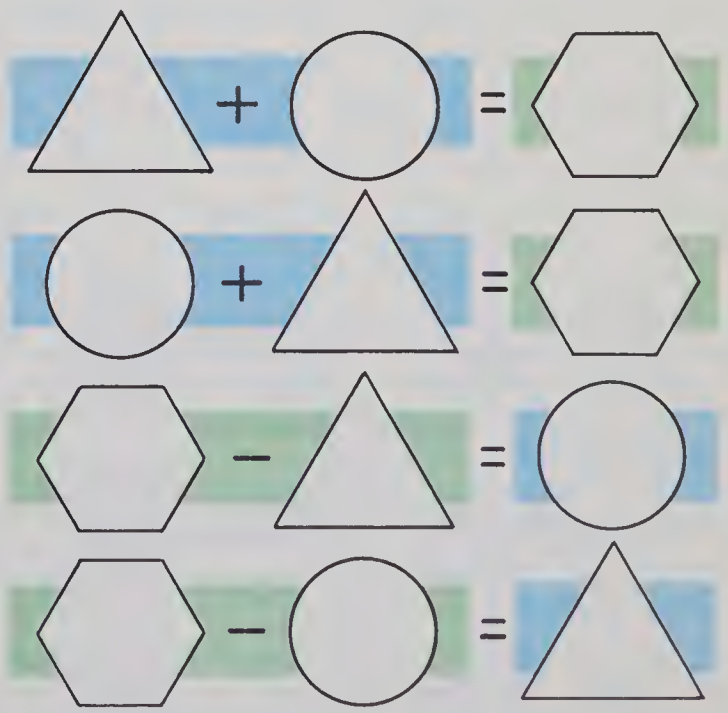


At a party of 15 children there were 9 girls. How many boys were there ?

III.

___ − 4 = 19 4 + 13 = ___

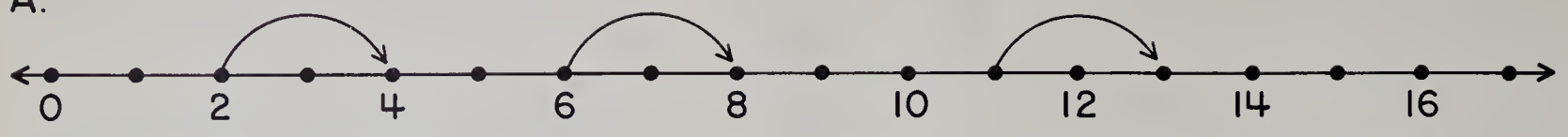
11 + 8 = ___ ___ − 5 = 15



We had 20 miles to go to get to the motel. Our first stop was 5 miles away.

WHAT'S MY RULE?

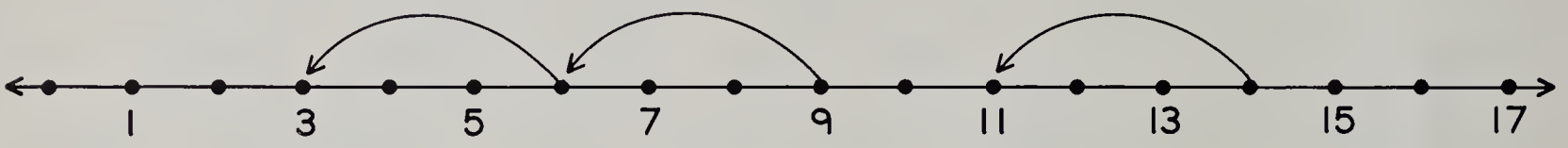
A.



2 → 4 6 → 8 11 → 13 0 → 10 →

14 → → 5 → 10 → 15 → 17

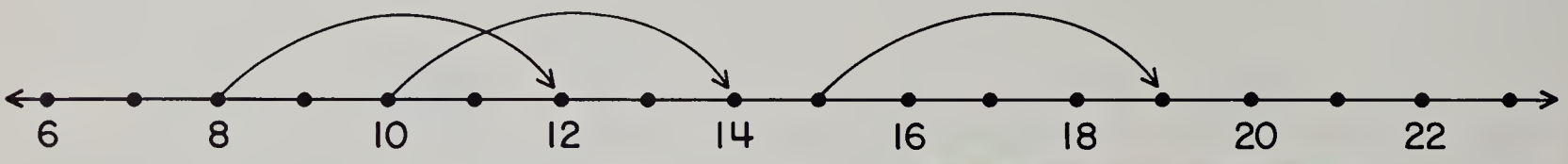
B.



6 → 3 9 → 6 14 → 10 → → 1

→ 13 12 → 8 → → 14 18 →

C.

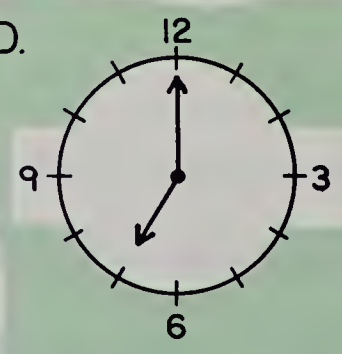


8 → 12 10 → 14 15 →

→ 13 7 → 11 →

19 → → 21 → 24

D.

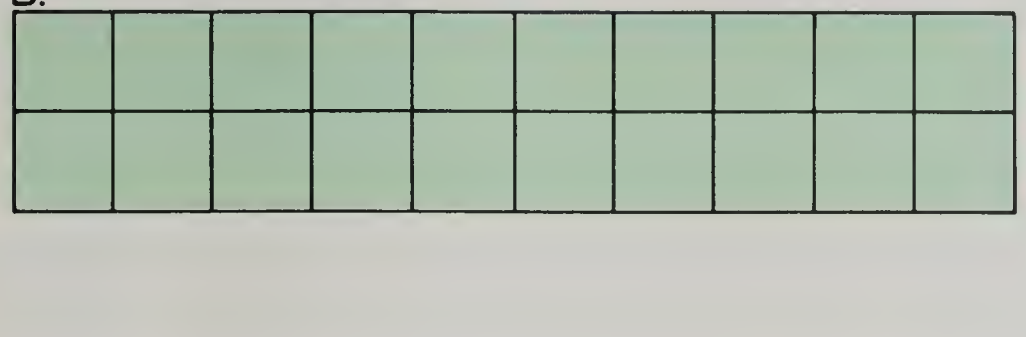


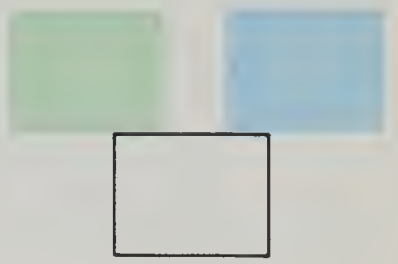
Jim's breakfast time

One hour later

A.

B.





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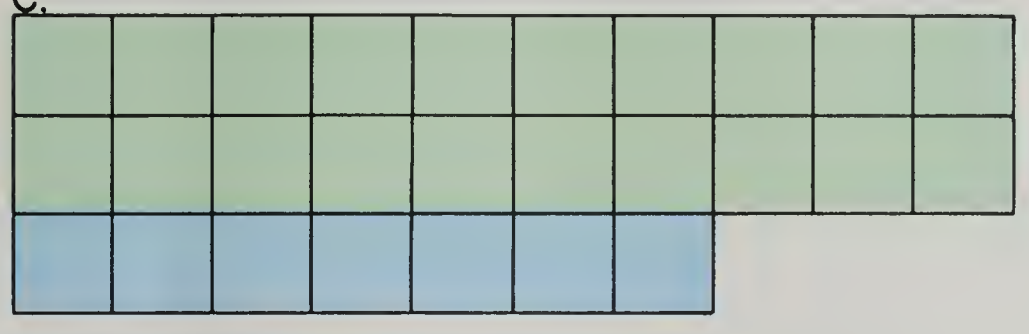
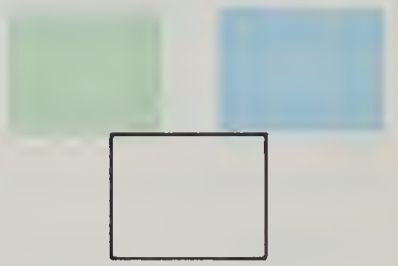
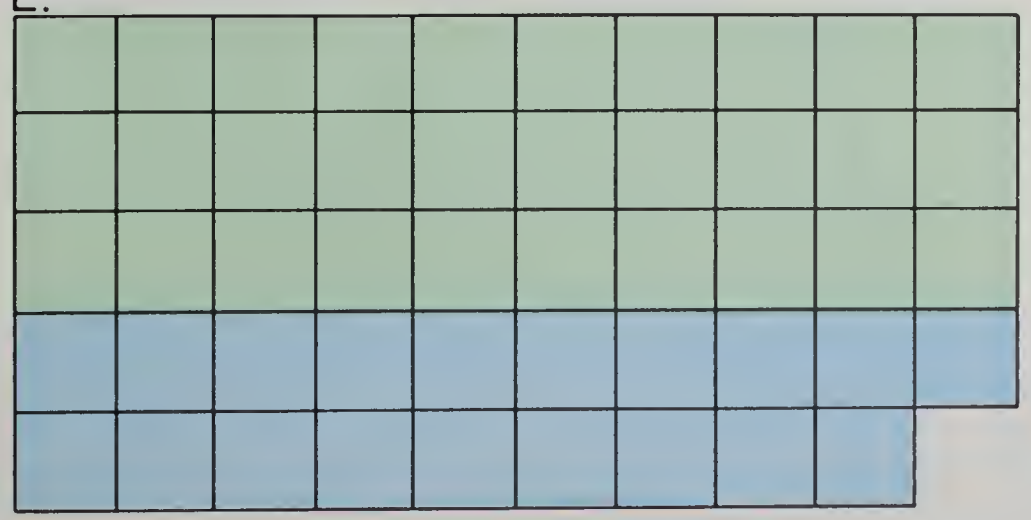


D.



E.



1 + 4

1 + 5

0 + 4

fourteen

1 + 3

I

sixty

64

II

1 + 2 + 3

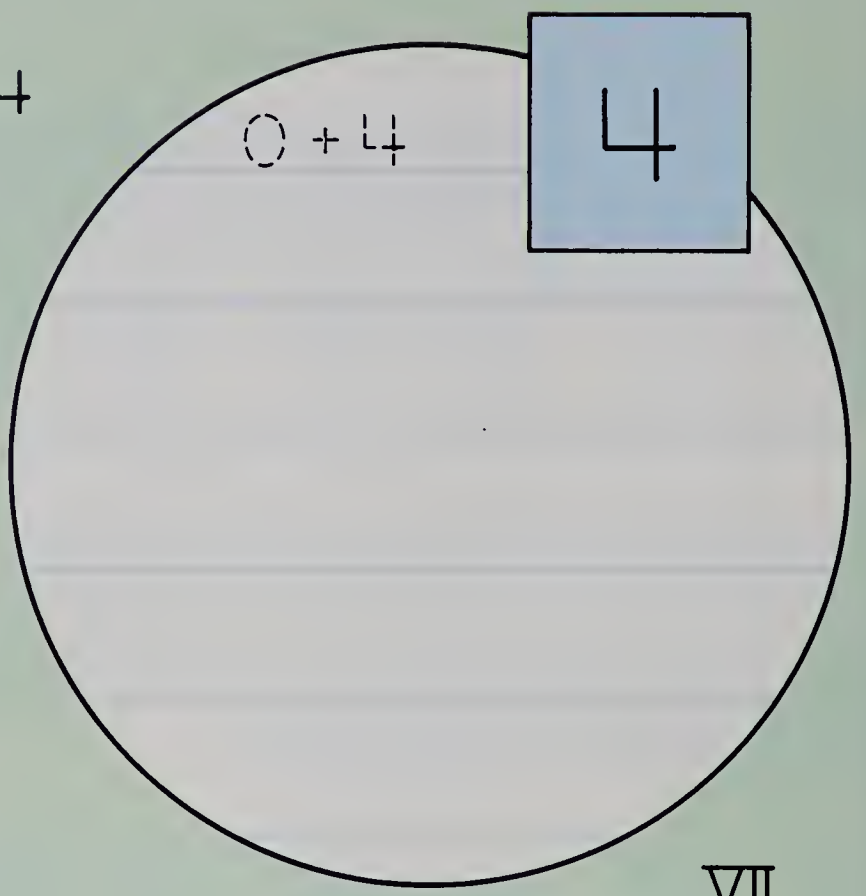
V

3 + 1 + 0

III

Add

2	2	2	2	2
1	2	3	4	5



VII

3 + 2 + 0

IV

5 + 1

six

1 + 5

6

0 + 1 + 3

sixteen

four

4 + 0

4 + 1

VI

4 + 2

4 + 3

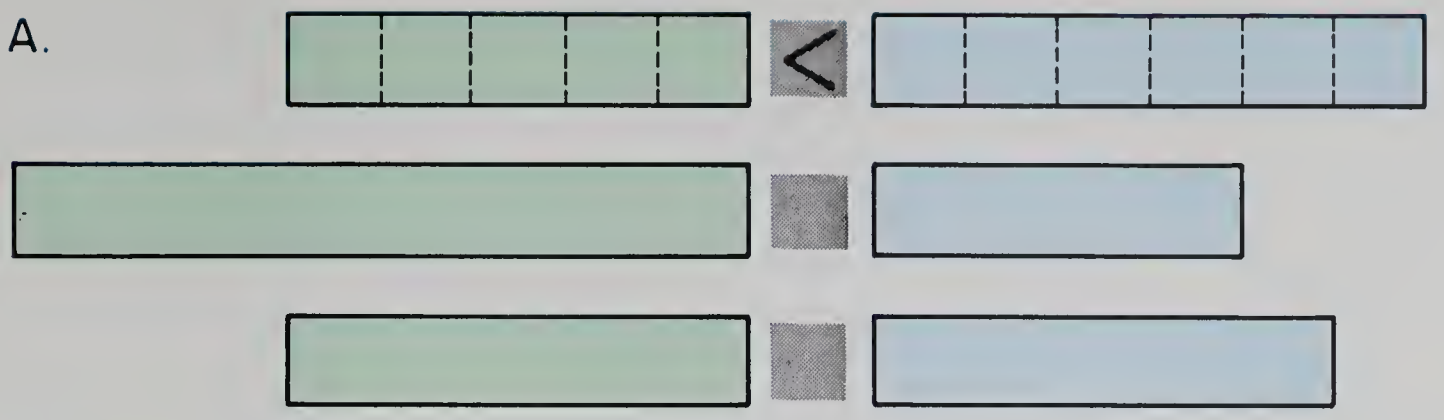
4 + 4

46

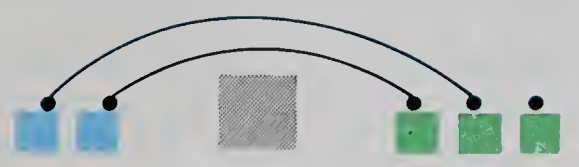
twenty

> Greater than < Less than = Equal to

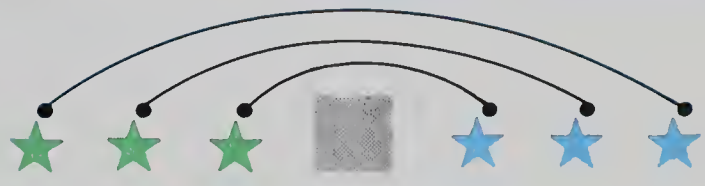
A.



B.



C.

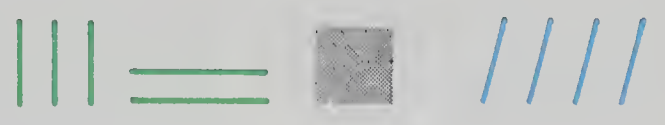


D.

E.

F.

G.



H.

I.

J.

K.

L.

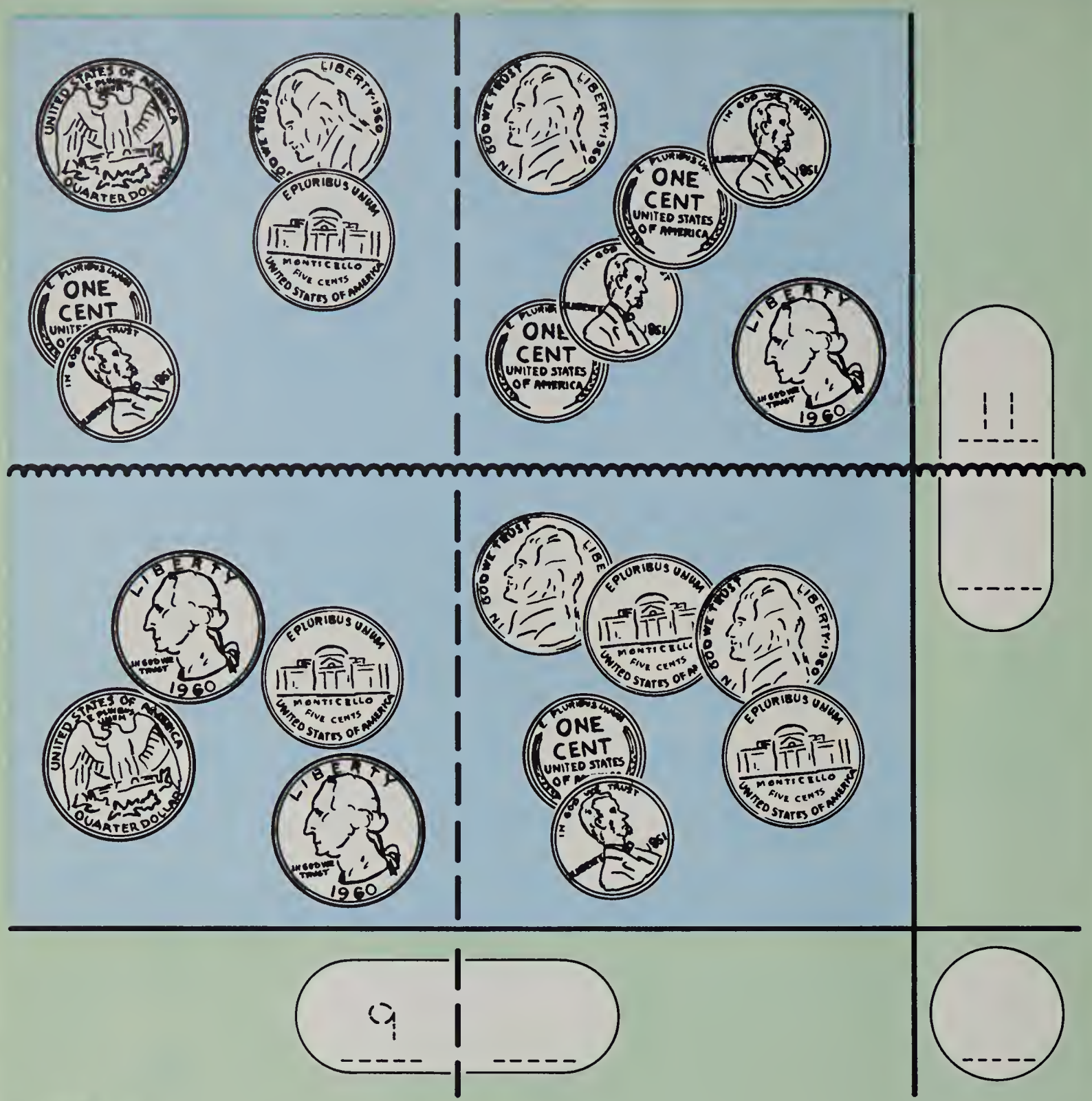
M.

N.

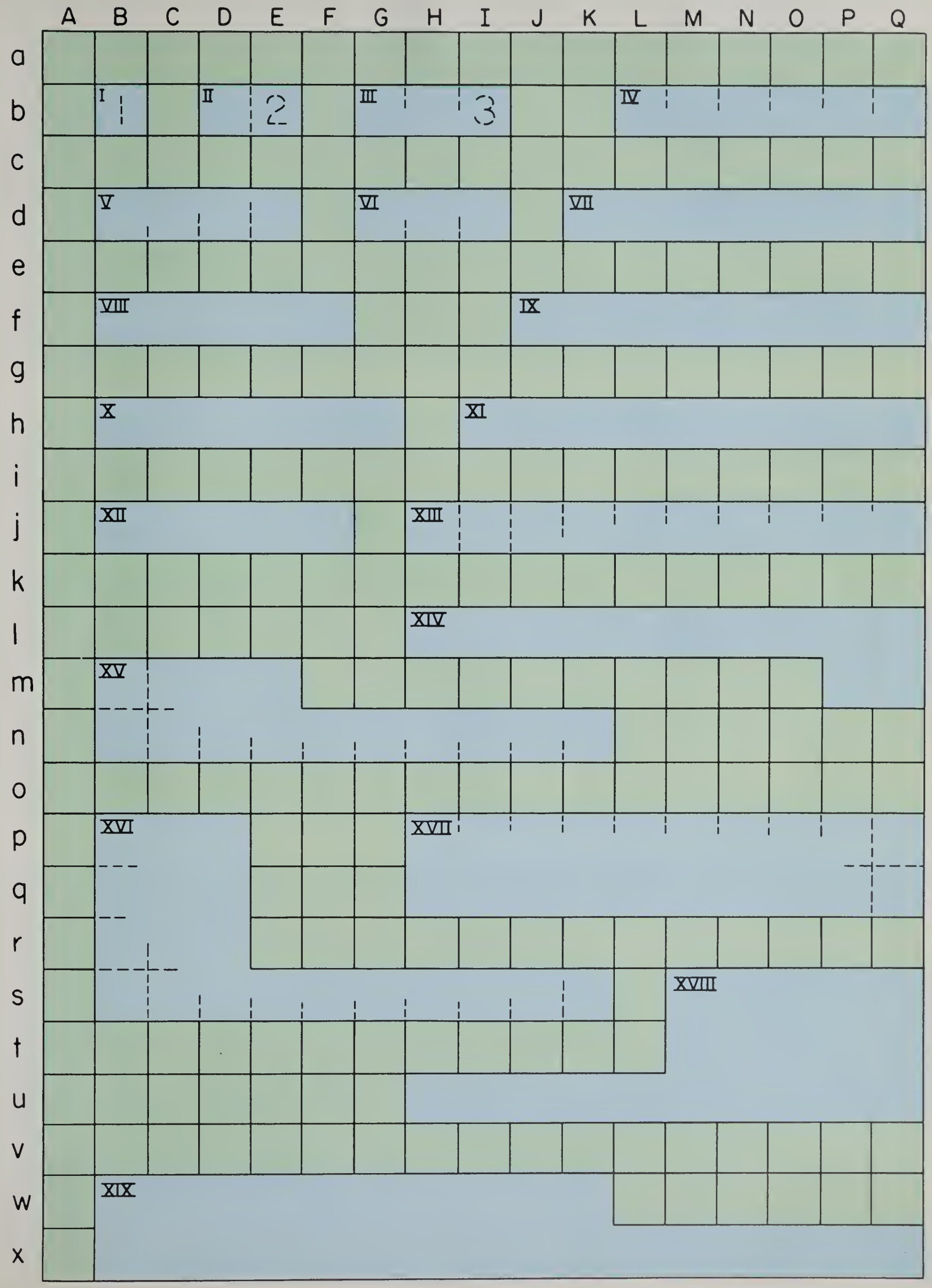
O.

P. What's My Rule?

□	13	50	11	15	10		20				46
□ - 10	3	40	1			7		15	11	21	


LIBERTY
IN GOD WE TRUST
1960
EPLURIBUS UNUM
MONTICELLO
FIVE CENTS
UNITED STATES OF AMERICA
QUARTER DOLLAR
ONE CENT
1951
9
3

How many green tiles does each blue card cover?



A.

11 cents

8 cents

11+8 cents

B.

12 cents

6 cents

12+6 cents

C.

9 cents

7 cents

9+7 cents

A.

19 cents

8 cents

19-8 cents

B.

18 cents

6 cents

18-6 cents

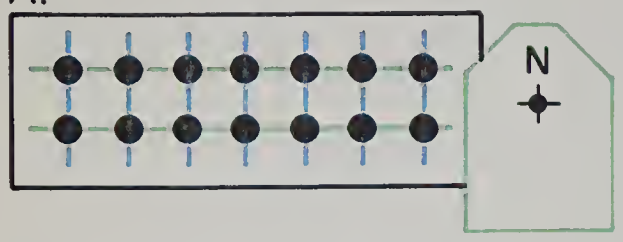
C.

16 cents

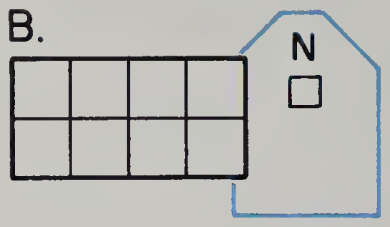
7 cents

16-7 cents

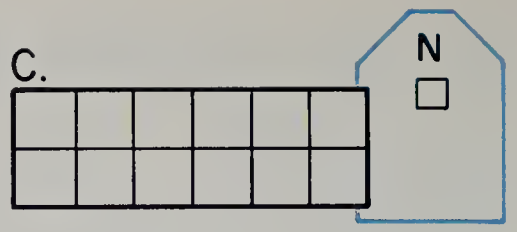
A.



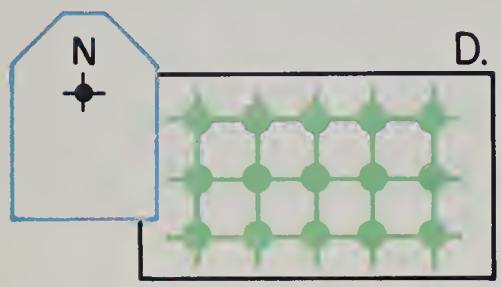
B.



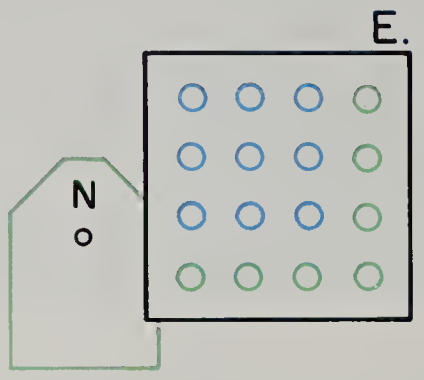
C.



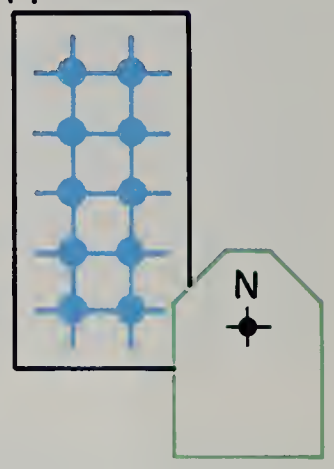
D.



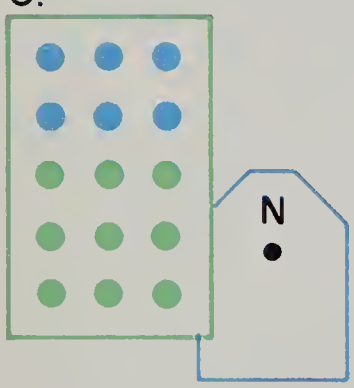
E.



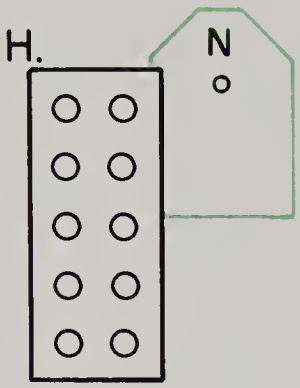
F.



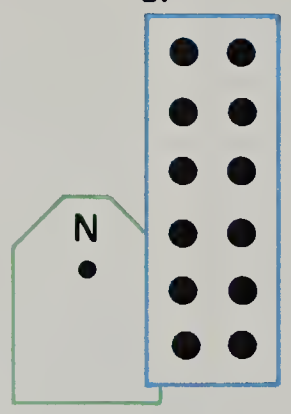
G.



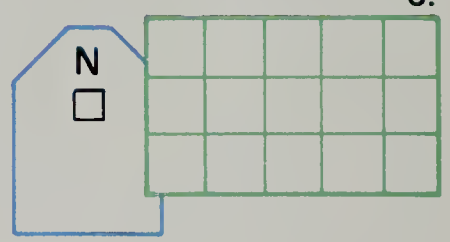
H.



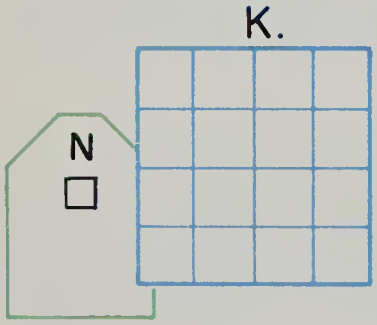
I.



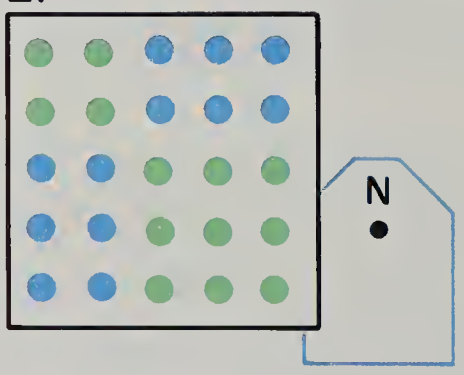
J.



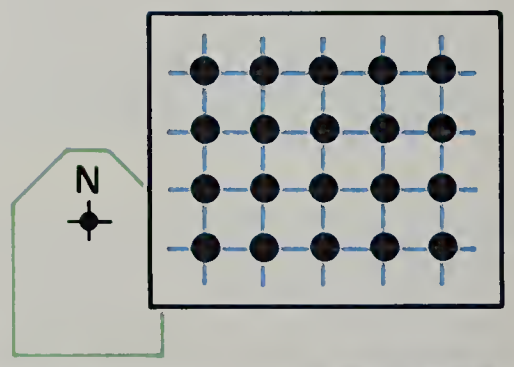
K.



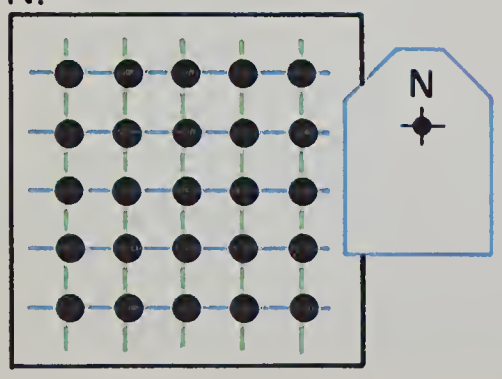
L.



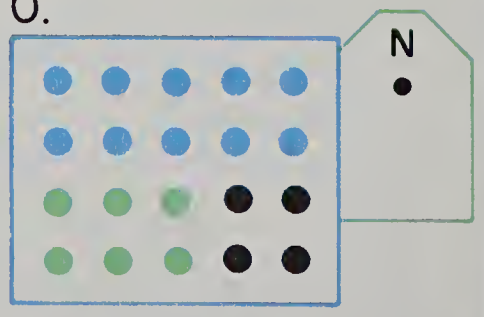
M.



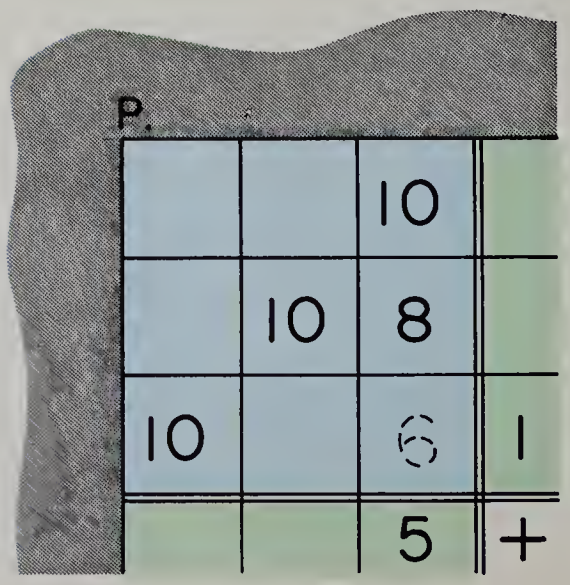
N.

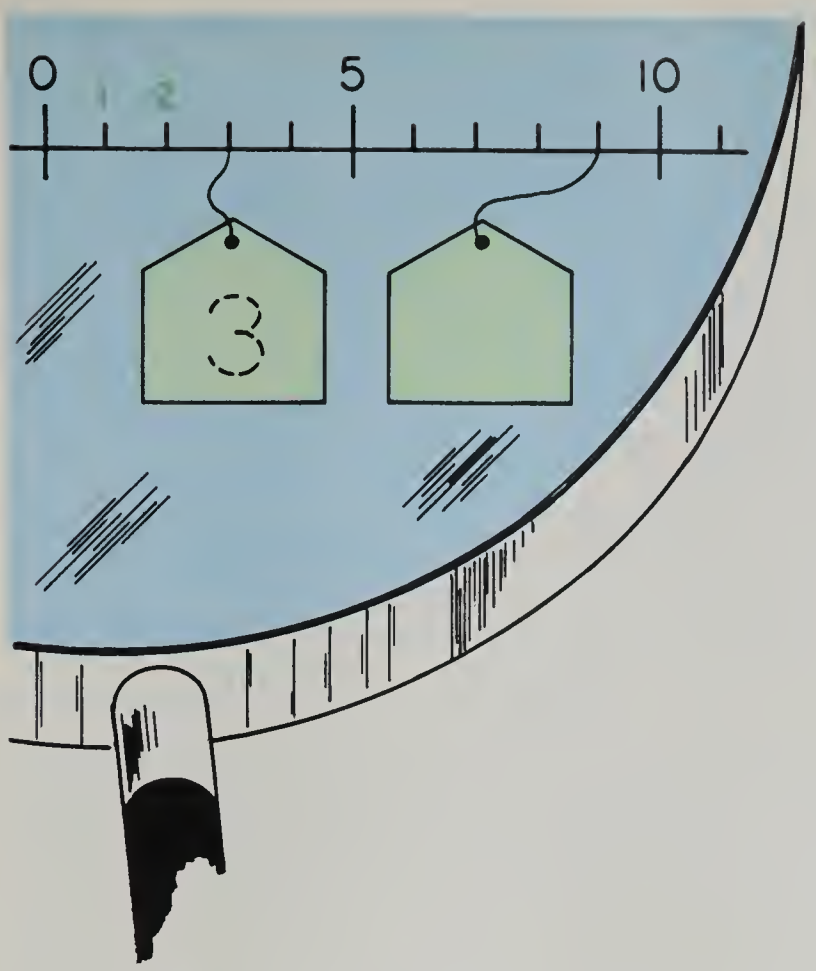


O.

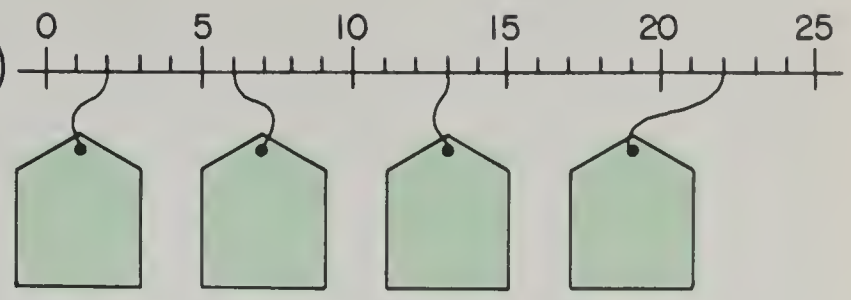


P.

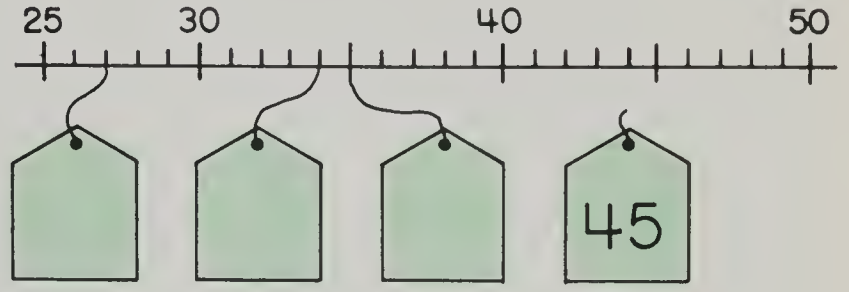




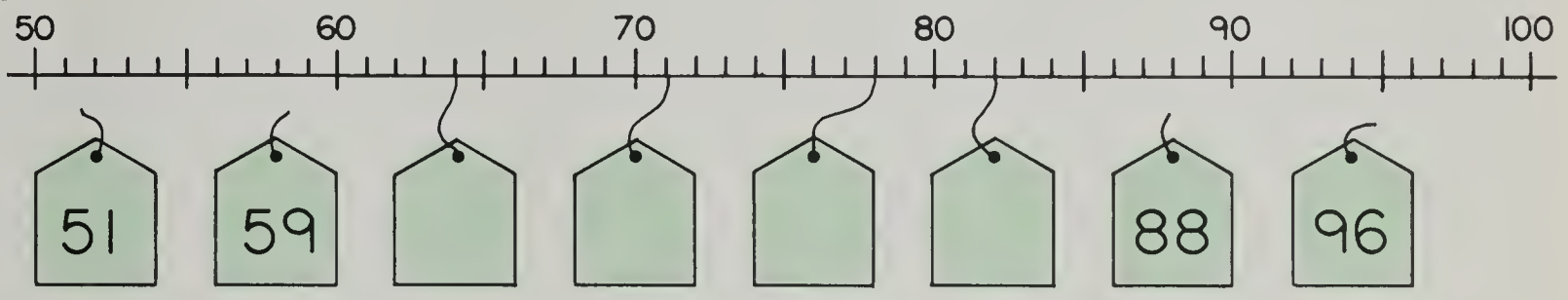
(a)



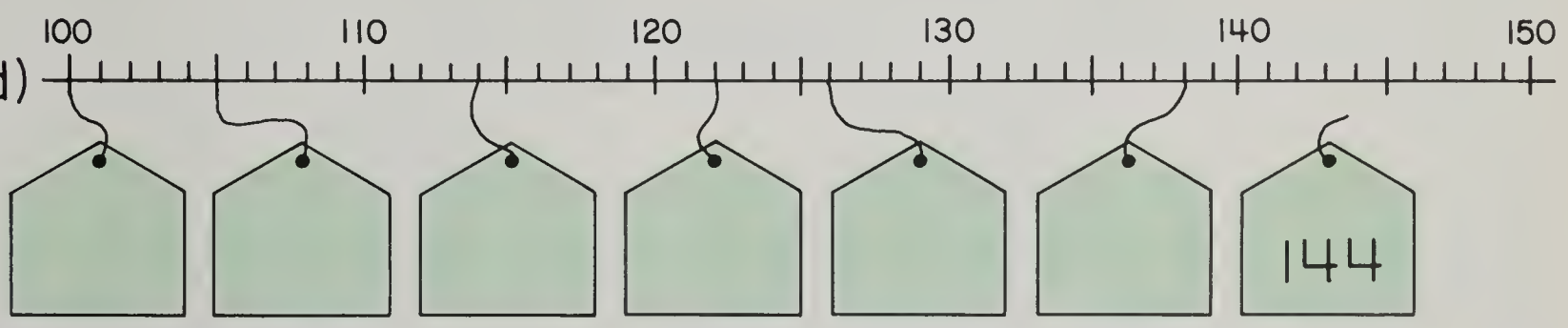
(b)



(c)



(d)



What's My Rule?

(e) 13, 15, 17, ____, ____, ____, 25, ____, ____, ____ . . .

(f) 26, 24, 22, ____, ____, ____, ____, 12, ____, ____ . . .

(g)

d	1	4	2	3	5	15		26	36		
d+5	6	9	7				30			42	52

I

II

III

IV

V

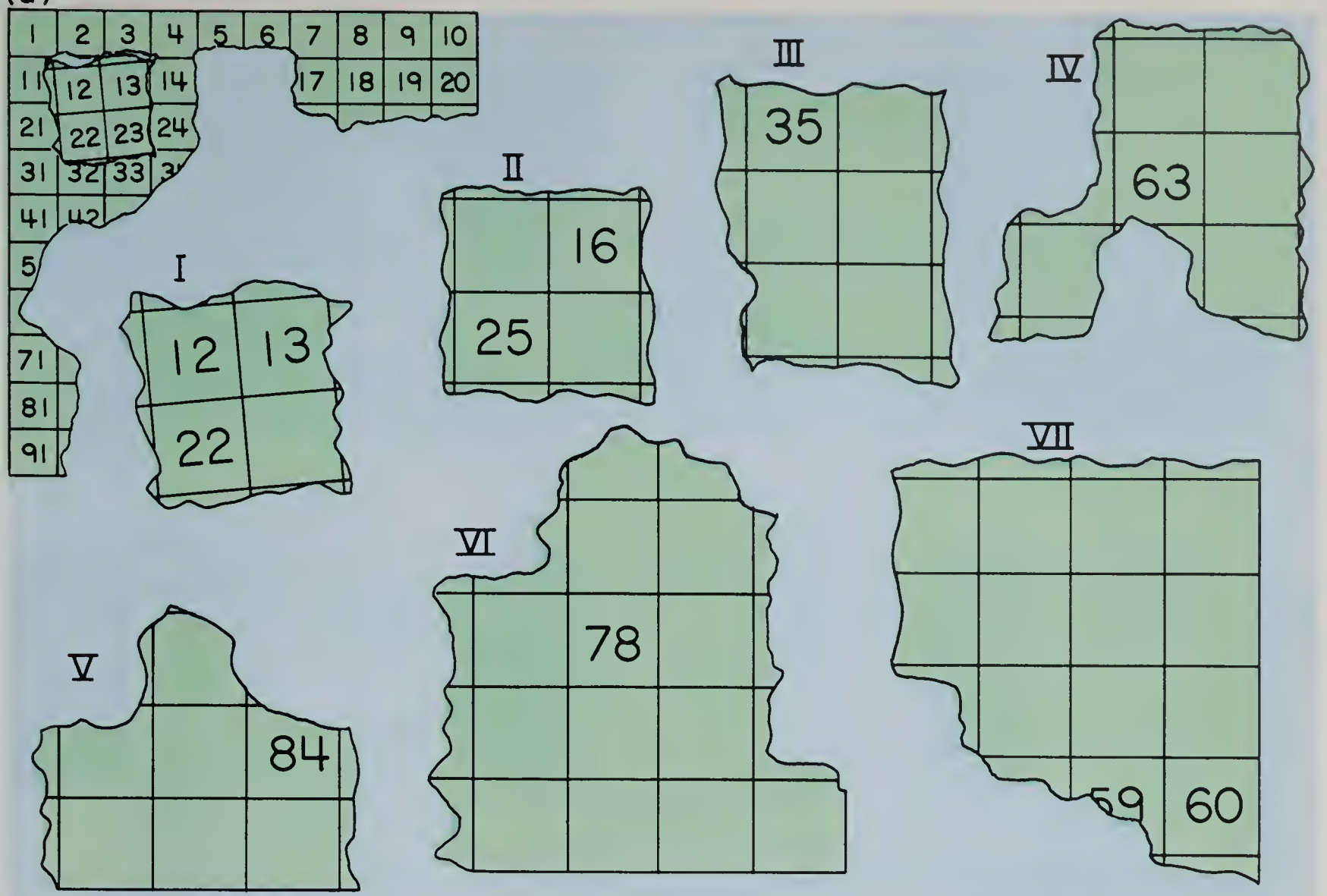
VI

VII

VIII

IX

(a)



What's My Rule?

(b) 30, 40, 50, 60, ____, ____, ____, ____, ____, ____, ____ ...

(c) 5, 10, 15, 20, ____, ____, ____, ____, ____, ____, ____ ...

(d)

□	6	4	10	6	7	13			18	30	
△	2	0	2	4	3	7	10	2		10	20
□ + △	8	4	12				20	10	30		80

(e)

m	12	15	10	13	23	30		40			
n	9	4	0	8	8		8		10	9	19
m − n	3	11	10			20	2	22	10	2	12

A

1	2	3
4	3	7
5	5	10

B

1	3	4
4	2	
	5	

C

1	2	
3	4	

D

0	2	
6	4	

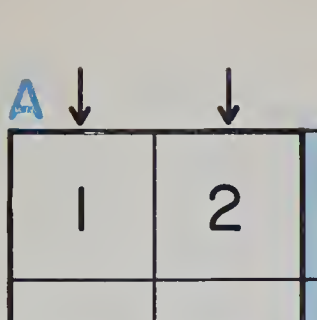
E

1	3	
7	5	

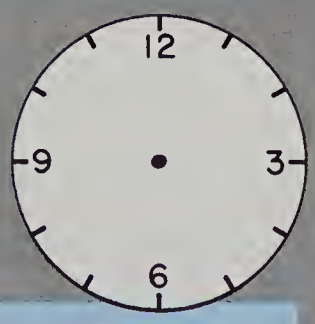
F

2	4	
8	6	

K



10:20 .... Time for a 15-minute recess



... End of recess

G

	7	17
0		3

H

	2	6
6		15

I

		0

J

3	5	
		8

WATCH THE SIGNS!

A.

10	+	5	=	15
−		−		−
2	+	3	=	
=		=		=
8	+		=	

B.

20	+		=	30
+		−		+
	−	5	=	0
=		=		=
	+		=	

C.

21	−		=	
+		−		+
	+	1	=	
=		=		=
30	−	7	=	

D.

	+	12	=	32
−		−		−
10	+		=	19
=		=		=
	+		=	

E.

	−		=	10
−		−		−
12	−		=	
=		=		=
	−	4	=	7

F.

	−	10	=	35
−		+		−
	+	2	=	17
=		=		=
	−		=	

What's My Rule?

G.

□ + △ + 10	15	17	20			20		49	30	10
□	2	6	5	7	10		12	39	10	
△	3	1	5	7	8	7	13			

A.

3 + 4 = 7

4 + 4 = ____

4 + 3 = ____

ADD

B.

5	6	6
6	6	5
11		

C.

5	5	5
3	4	5

D.

6	6	6
0	2	4

E.

2	4	6
2	1	
4		9

F.

1	5	
1	0	

G.

1	2	
3	0	

H. 0 + ▢ = 1

0 + ▢ = 2

I. 3 + ▢ = 4

3 + ▢ = 5

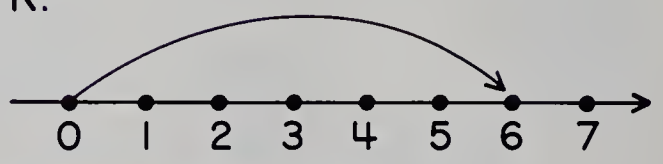
J. 5 + ▢ = 6

5 + ▢ = 7

L.

+	0	1	2	3	4	5	6
0	0				4		
1	1						
2			4				
3	3		5				
4	4	5	6	7			
5	5			8			
6	6	7				11	

K.



0 → 6

1 → 7

2 → ▢

3 → ▢

4 → ▢

A. 7 + 0 = 7

B. 8 + 0 =

C. 10 + 0 =

D. 7 + 3 =

E. 9 + 3 =

F. 10 + 3 =

G. 2 + 7 =

H. 4 + 7 =

I. 6 + 7 =

J. 1 + 8 =

K. 3 + 8 =

L. 7 + 8 =

ADD

M.
$$\begin{array}{r} 8 \\ 4 \\ \hline 12 \end{array}$$

N.
$$\begin{array}{r} 10 \\ 5 \\ \hline 15 \end{array}$$

O.
$$\begin{array}{r} 9 \\ 4 \\ \hline 13 \end{array}$$

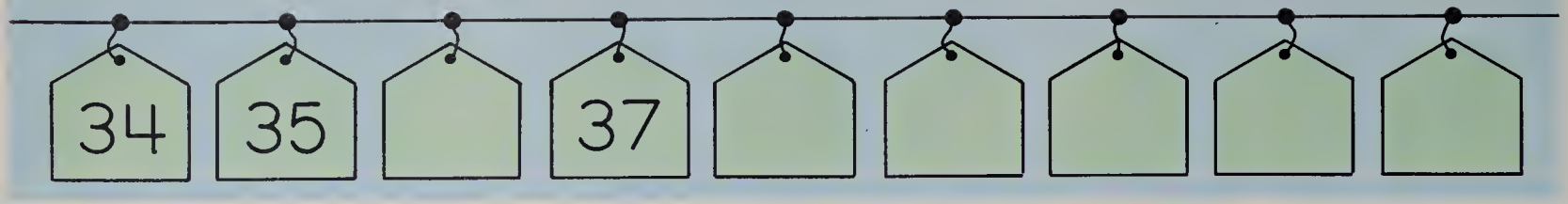
P.
$$\begin{array}{r} 6 \\ 8 \\ \hline \end{array}$$

Q.
$$\begin{array}{r} 4 \\ 10 \\ \hline \end{array}$$

R.

+	0	1	2	3	4	5	6	7	8	9	10
0	0	1	2	3	4	5	6	7			
1	1						7				
2	2						8				
3	3						9				
4	4						10		12		
5	5						11				
6	6	7	8	9	10	11	12				

A.



B.

JUNEAU IS THE CAPITAL OF THE STATE OF ALASKA.

How many letters in the sentence above?

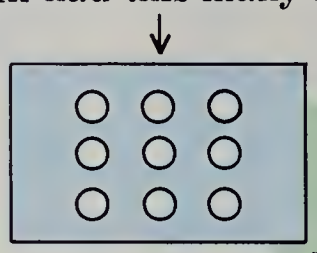
letters

C.

13	14	15	16	
	24			27
	34	35		
43			46	

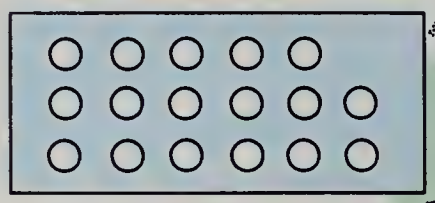
D.

Bill had this many marbles.



marbles

His brother Carl had this many marbles.



marbles

Together, Bill and Carl had marbles.

Carl had marbles more than Bill had.

E.

27, 25, 23, ____, ____, ____, ____, ____, 11, ____

F.

□	3	6	13	17	19
△	8	4	6	3	5
⬡	11				

G.

▱	9	15	15	16	20
▽	7	10	15	8	13
⧖	2				

The number of letters in each set is —

N { } = 0

N { R } = 1

N { C X } =

N { and } = 3

N { plus } =

N { equal } =

N { Vacation } =

N { is over } =

N { Vacation is over. } =

N { Ned ran } =

N { to school } =

N { Ned ran to school. } =

How many blocks in each set?

N { ▪ ▪ } = 2

N { ▪ ▪ ▪ } =

N { ▪ ▪ ▪ ▪ } =

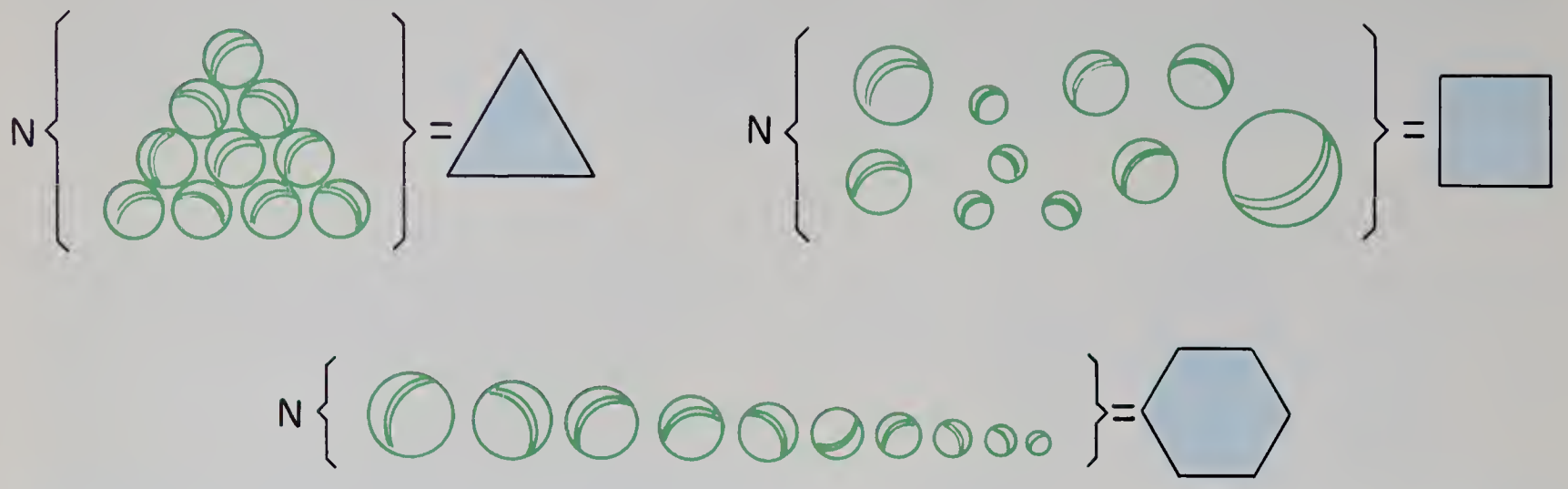
N { ▪ ▪ ▪ ▪ } =

N { ▪ ▪ ▪ ▪ ▪ ▪ } =

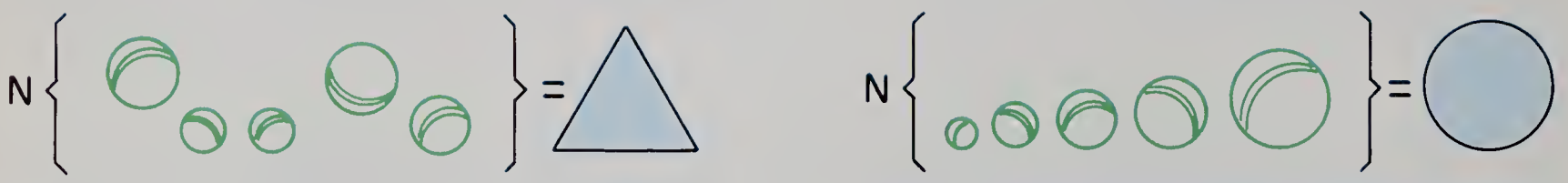
N { ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ } =

How many in each set?

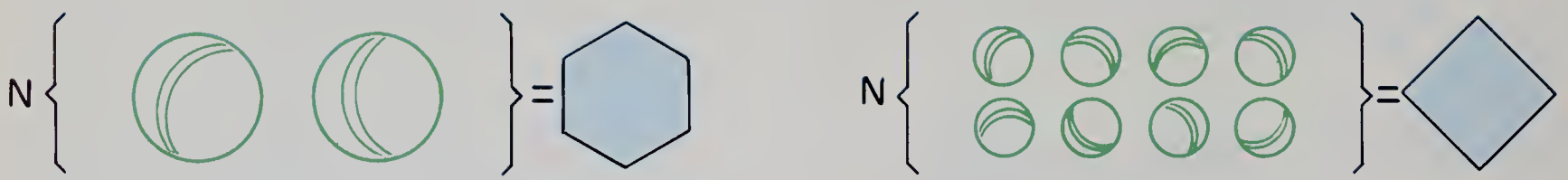
A.



B.



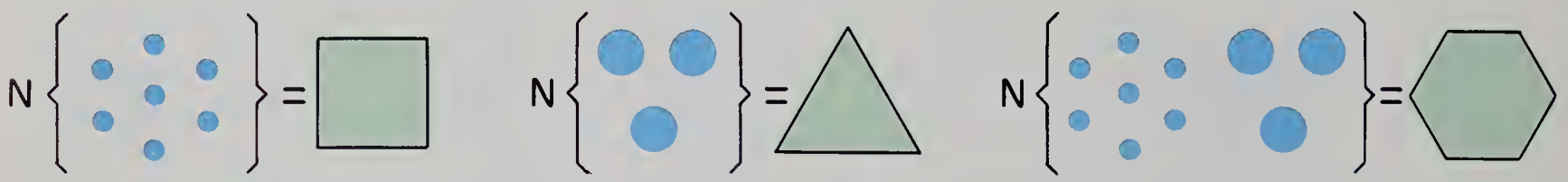
C.



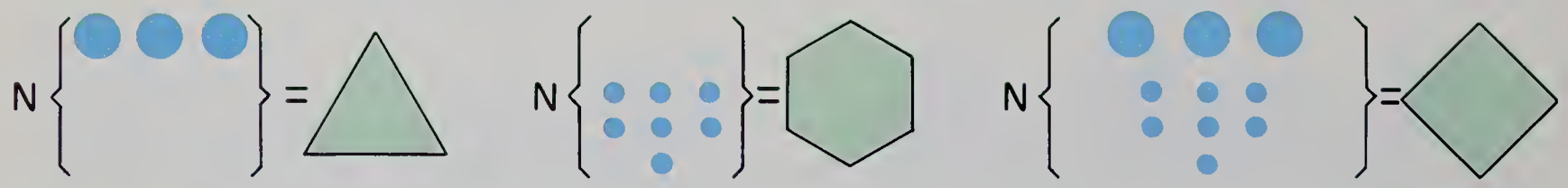
D.

How many in each set?

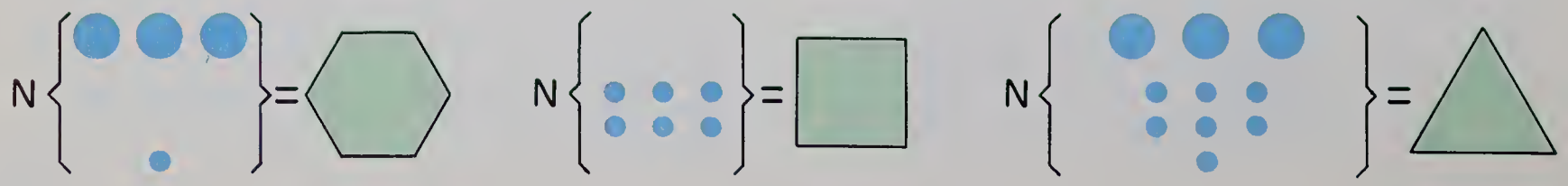
E.



F.

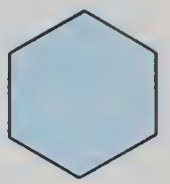


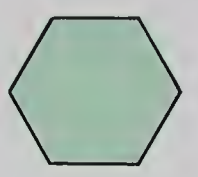
G.



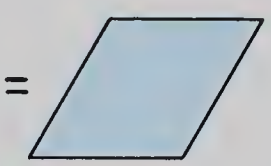
The number of beads is —

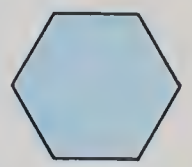
(a) N { } =

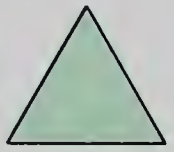
(b) N { } = 

(c) N { } = 

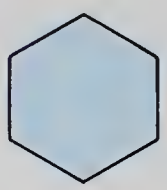
(d) N { } =

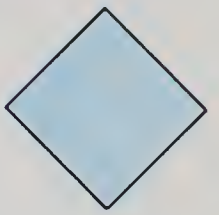
(e) N { } = 

(f) N { } = 

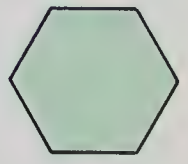
(g) N { } = 

(h) N { } =

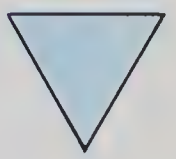
(i) N { } = 

(j) N { } = 

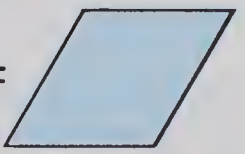
(k) N { } =

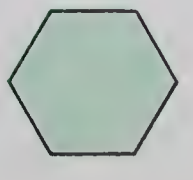
(l) N { } = 

(m) N { } =

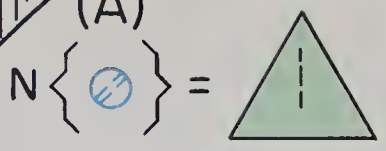
(n) N { } = 

(o) N { } =

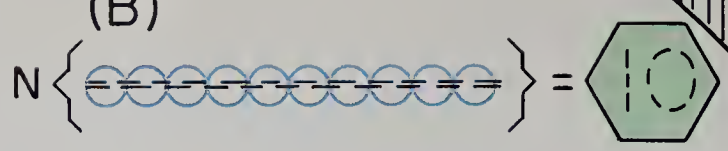
(p) N { } = 

(q) N { } = 

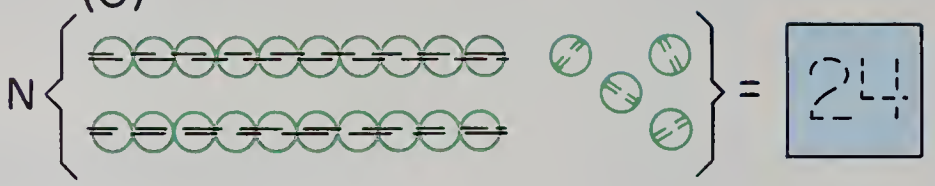
(A)



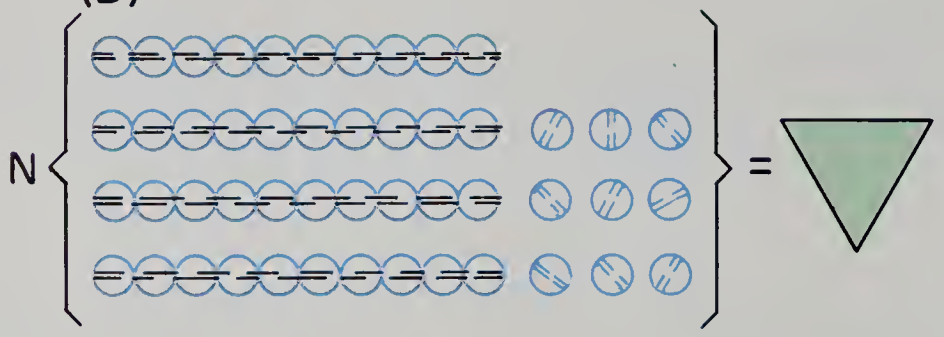
(B)



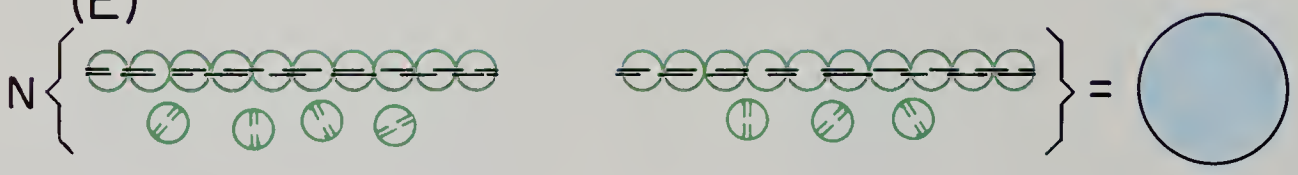
(C)



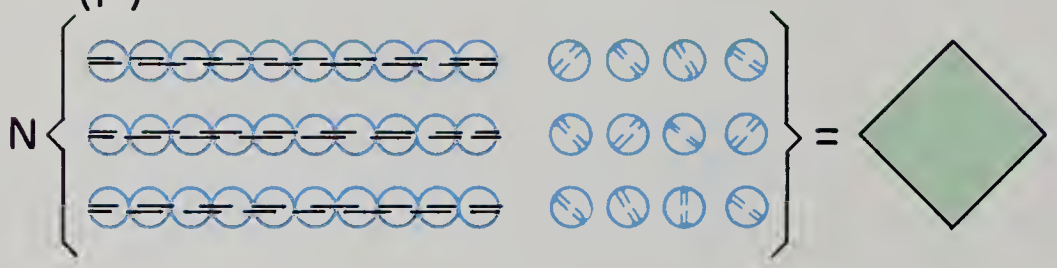
(D)



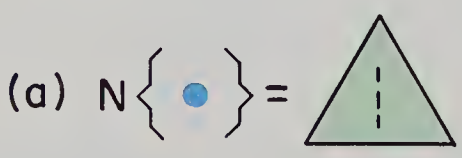
(E)

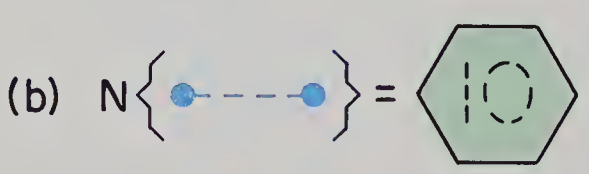


(F)

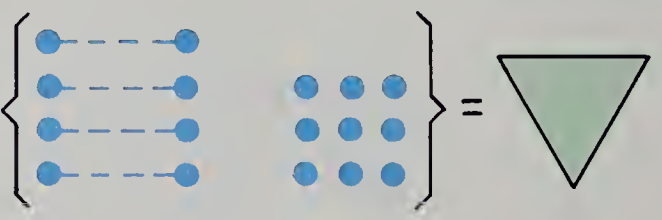


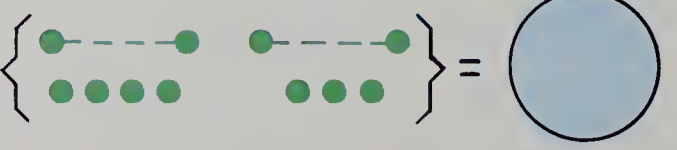
In shorthand

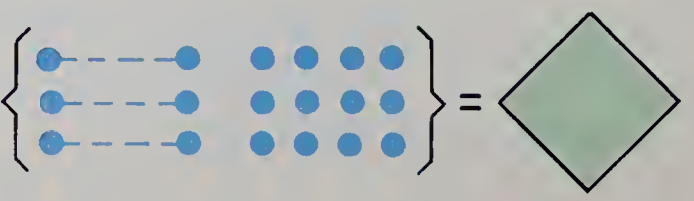
(a) 

(b) 

(c)

(d) 

(e) 

(f) 

ALL ABOUT 18

Dots

N

Counters

___ tens and ____ units

Eggs

Abacus or
Counting Frame

____ full row and
____ more beads

___ doz. and ____ more eggs

Days

___ weeks and ____ days

Pennies

___ dime, _____ nickel,
and _____ pennies

Suppose the 18 things were:

Cookies packed 8 in a box. ____ full boxes and ____ more cookies.

Baseball players — 9 players to a team.

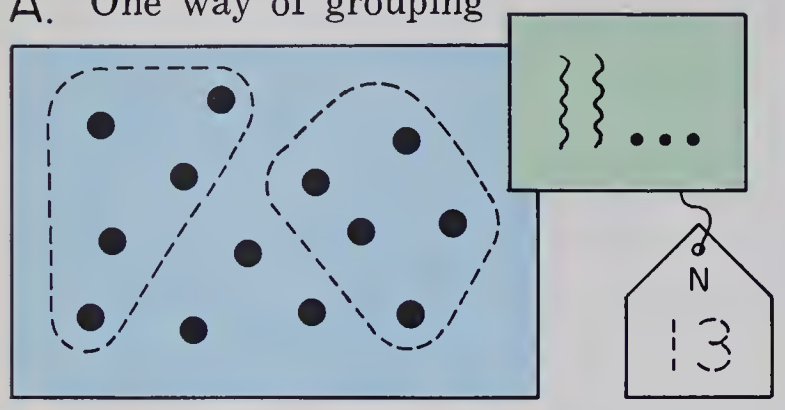
Ounces — a pound is the same as 16 ounces.

Inches. Wheels on wagons. Wheels on tricycles.

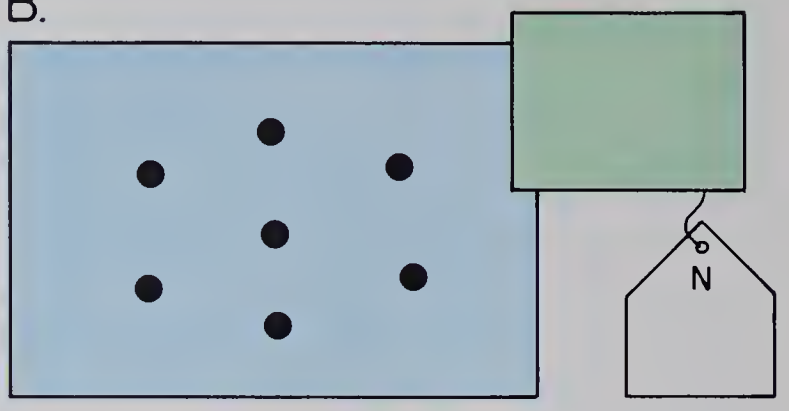
In each example, draw loops around groups of 5 dots with no dot in two groups.

In the green spaces, keep a record of the grouping of dots.
Use
≀ to mean a group of 5,
and • to mean a dot left over.

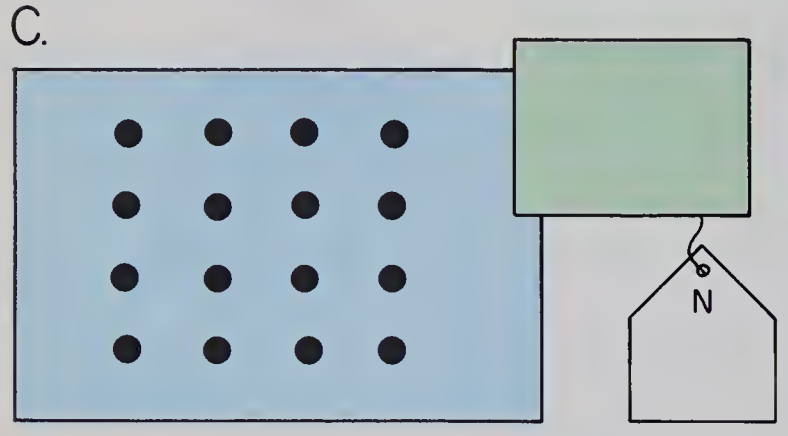
A. One way of grouping



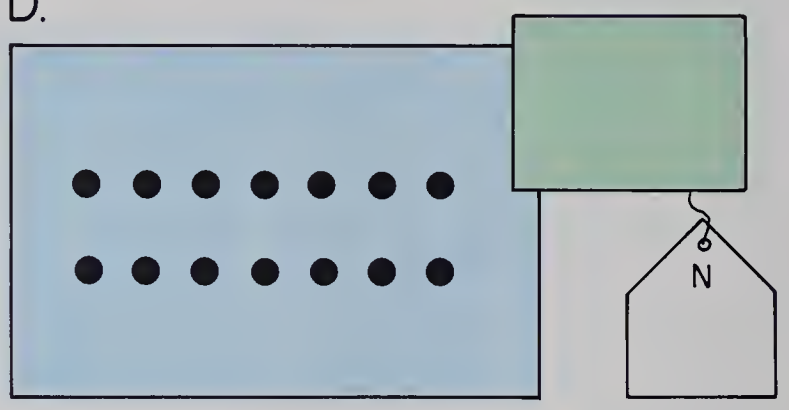
B.



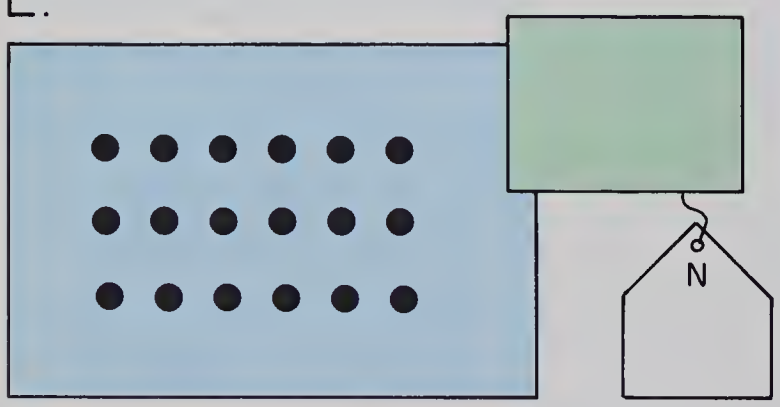
C.



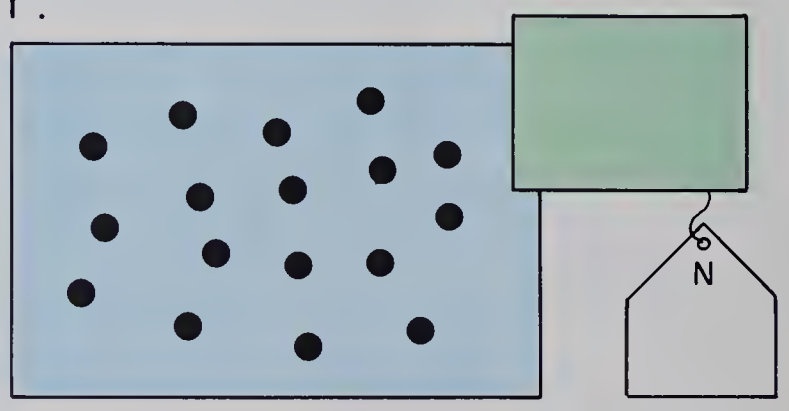
D.



E.



F.



G. What Are My Rules?

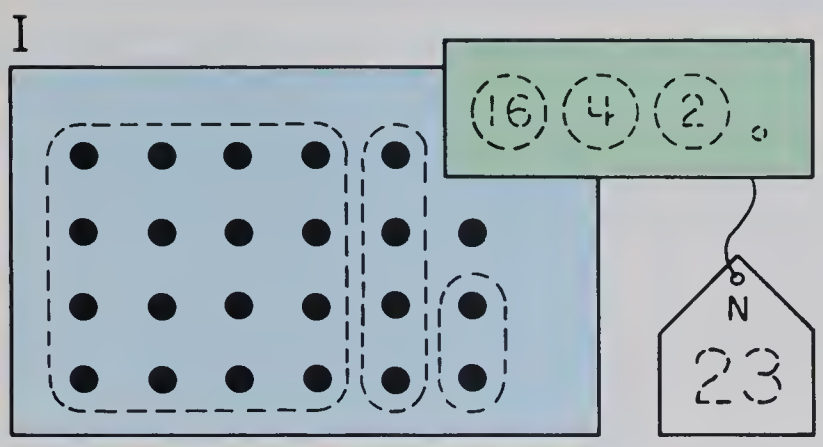
k − 10	2	10	5					8		26
k	12	20	15	30	19	14			27	
k + 5	17	25		35			15			

Put a loop around as many groups of 16 as you can. Put a loop around groups of 8 that are left. Then put a loop around groups of 4 that are left. Put a loop around groups of 2 that are left. No dots can be in more than one group.

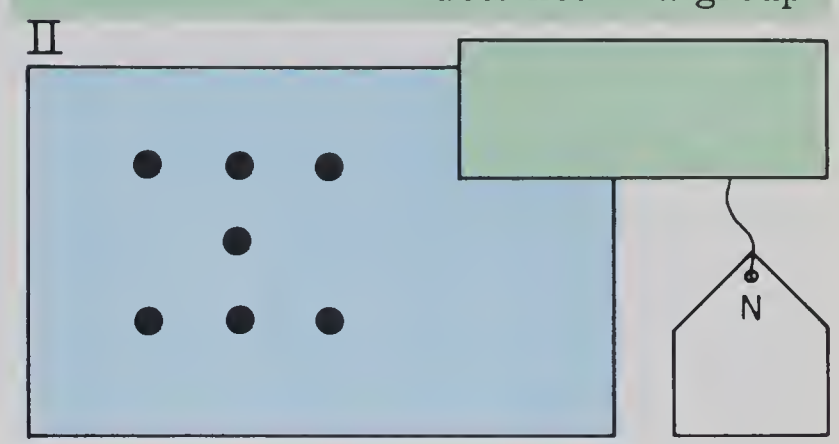
Record results:

⑯ ..... a group of 16
⑧ ..... a group of 8
④ ..... a group of 4
② ..... a group of 2
• ..... dots not in a group

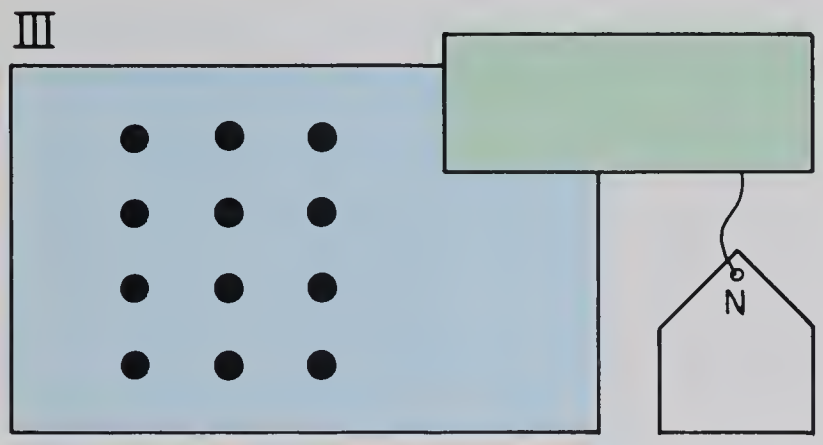
I



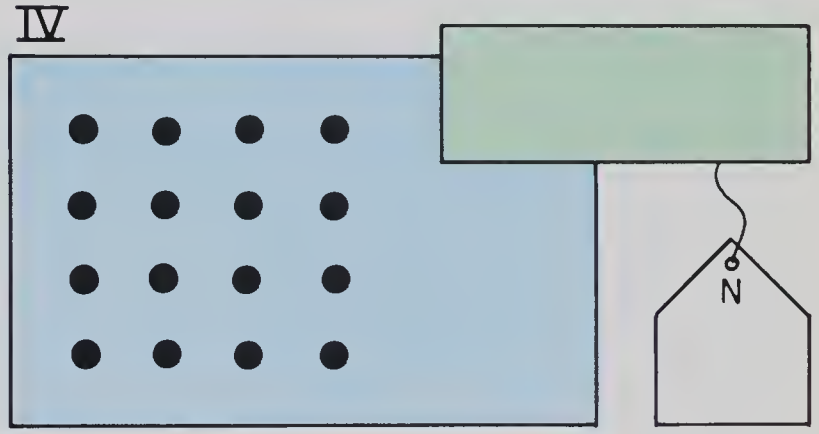
II



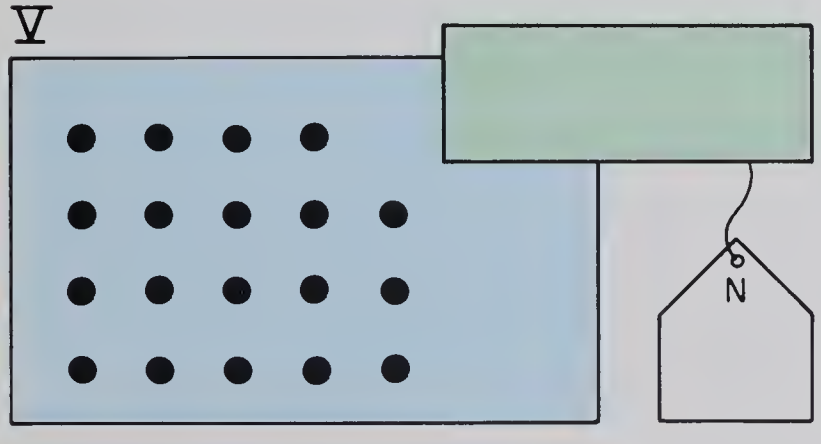
III



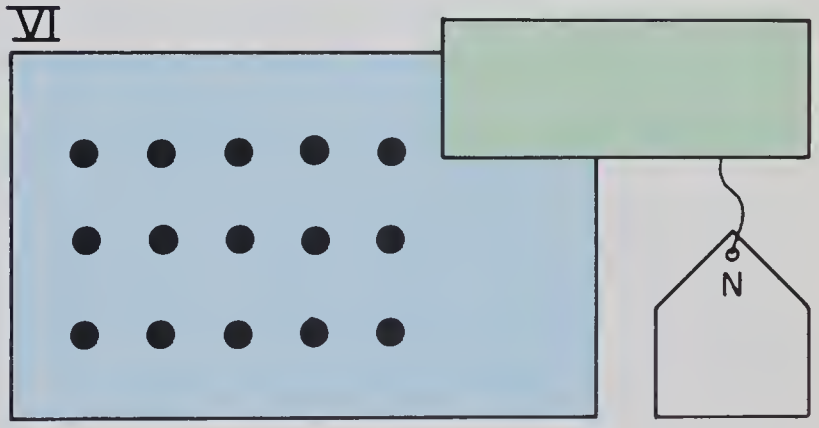
IV



V



VI



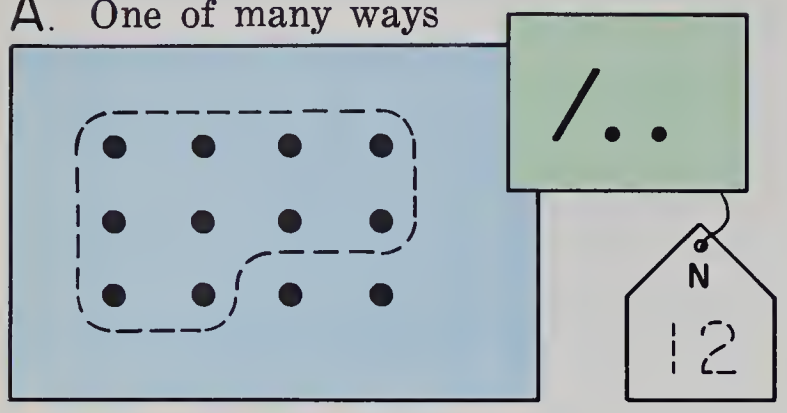
VII What Are My Rules?

□	1	4	7	13	8		19			28
□ + 2	3	6				12				
□ + 12	13	16						32	12	

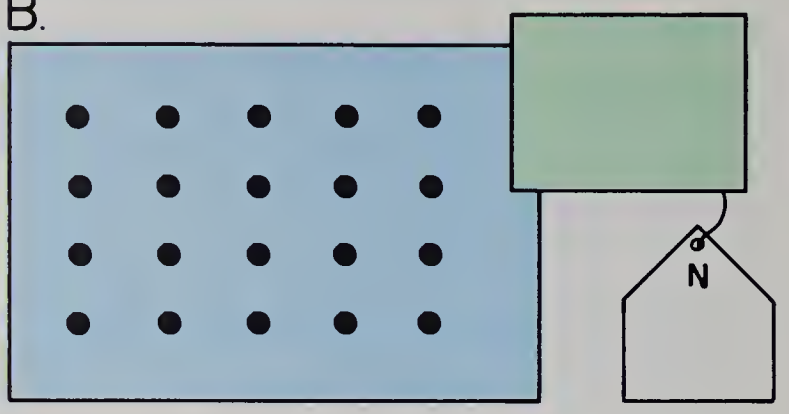
In each example on these two pages draw loops around groups of 10.

In green blocks, use / to indicate groups of 10 and • to indicate objects not in groups of 10.

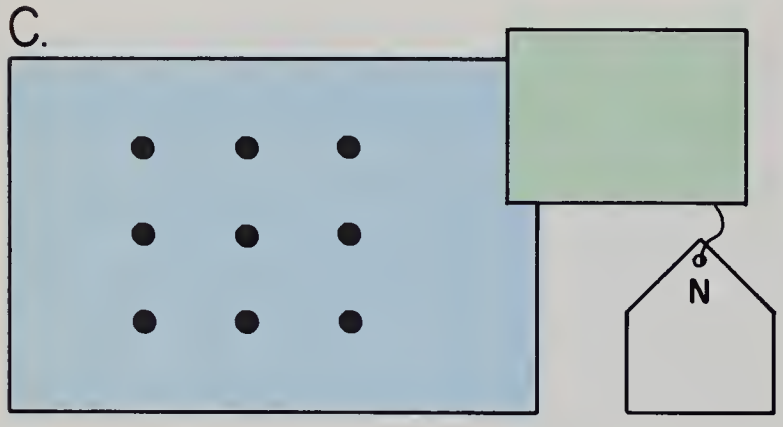
A. One of many ways



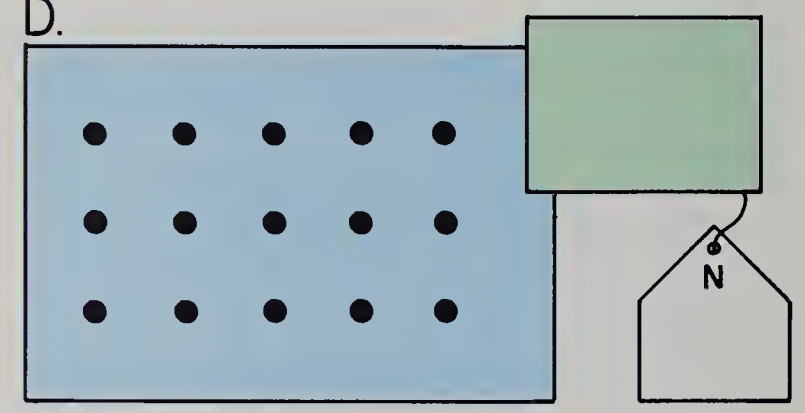
B.



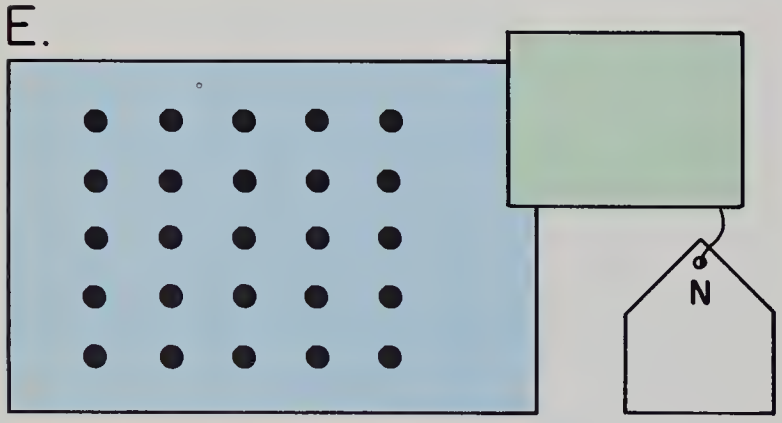
C.



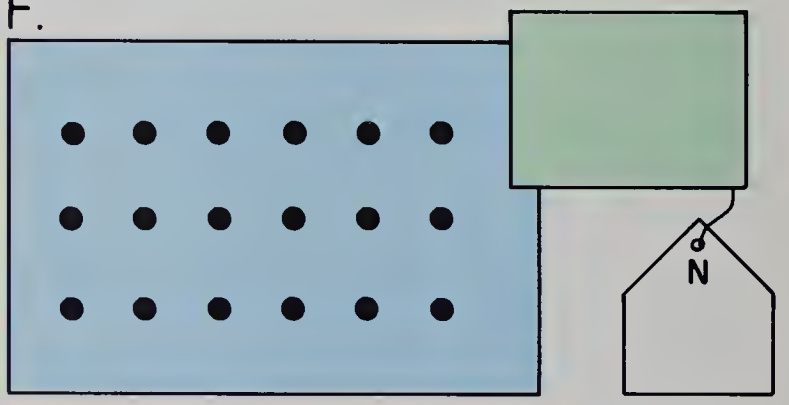
D.



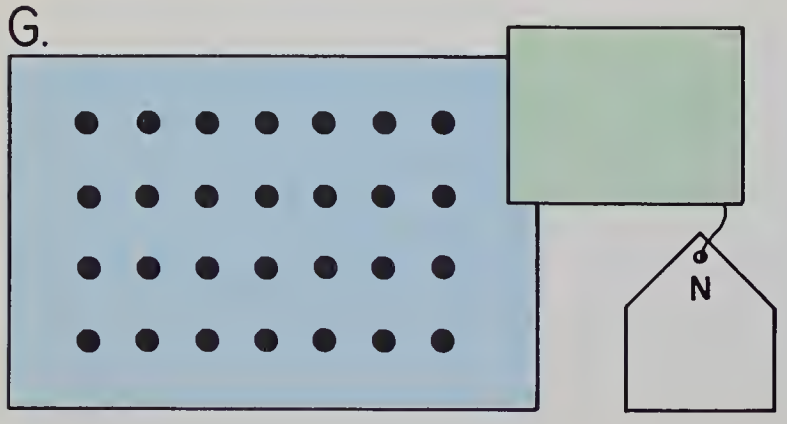
E.



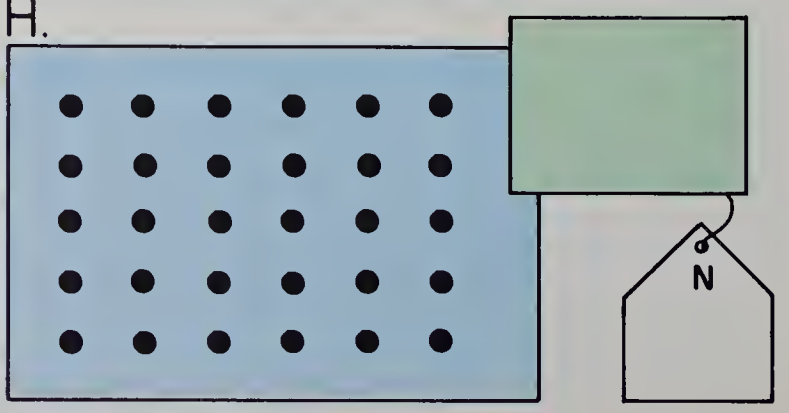
F.



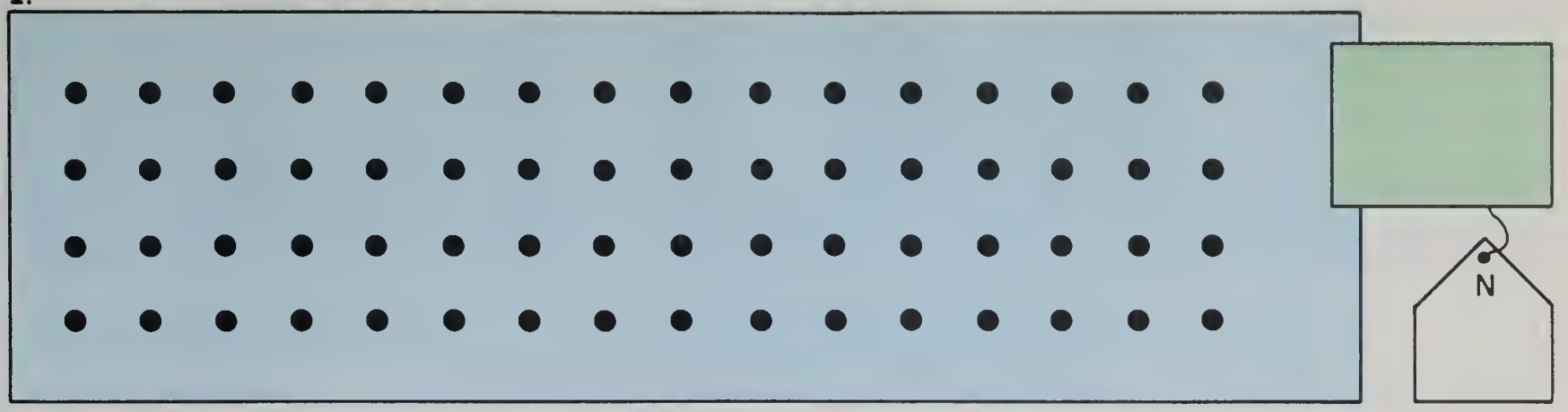
G.



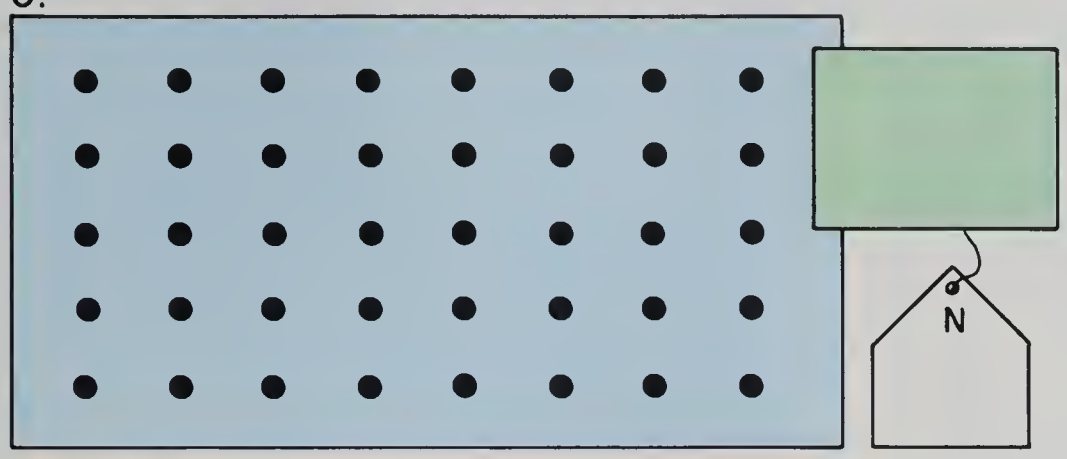
H.



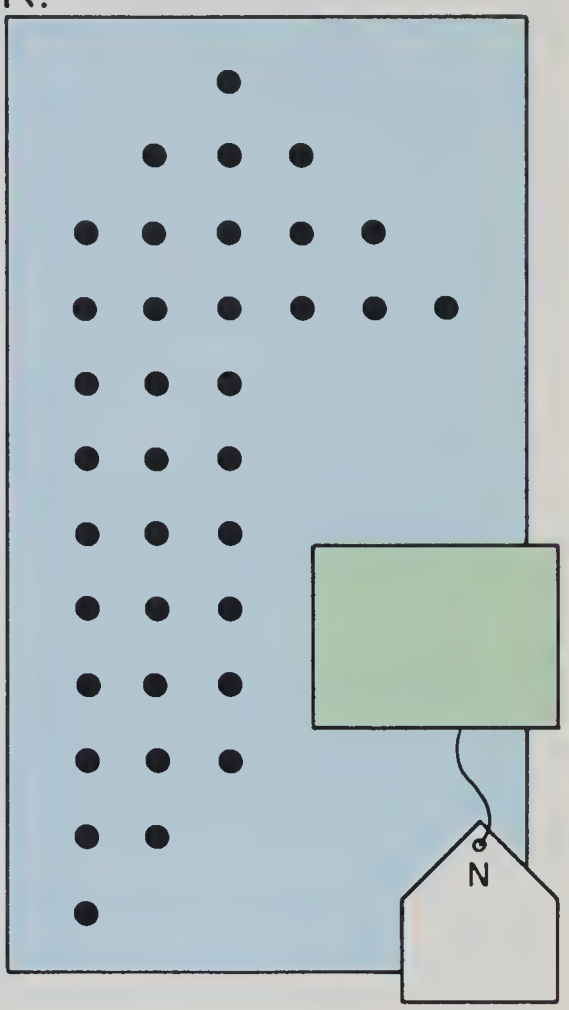
I.



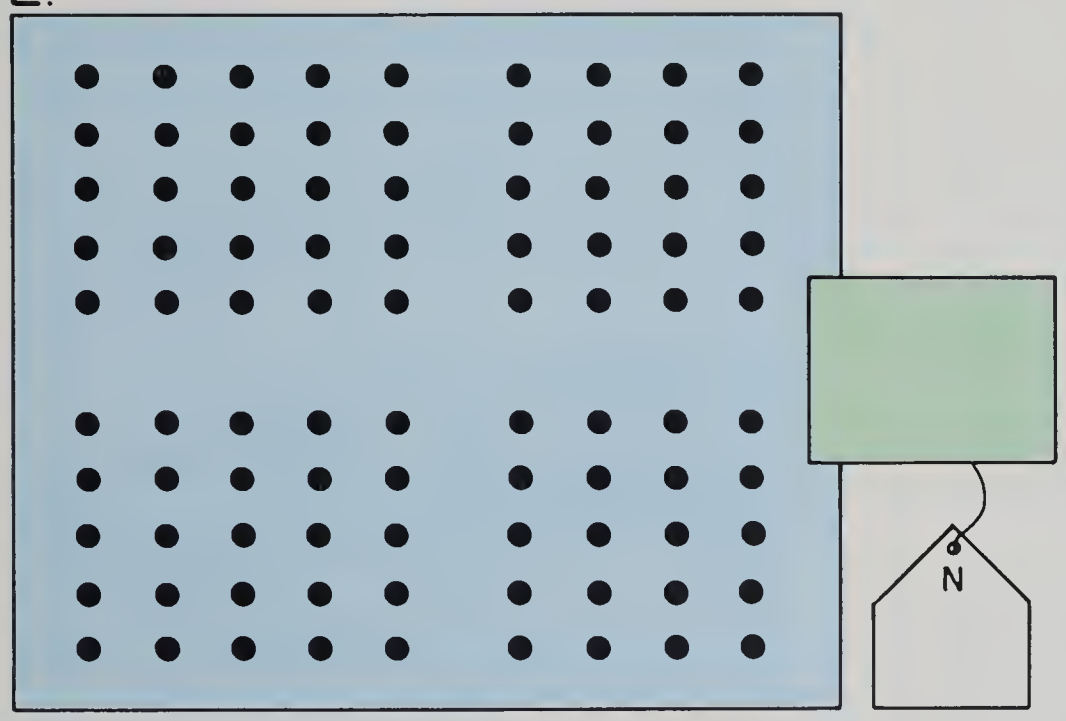
J.



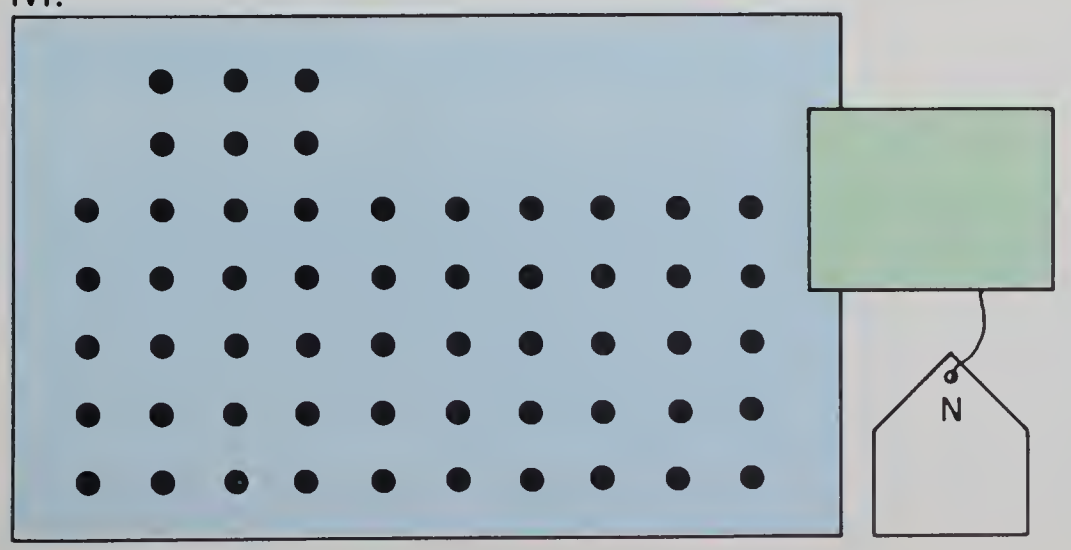
K.



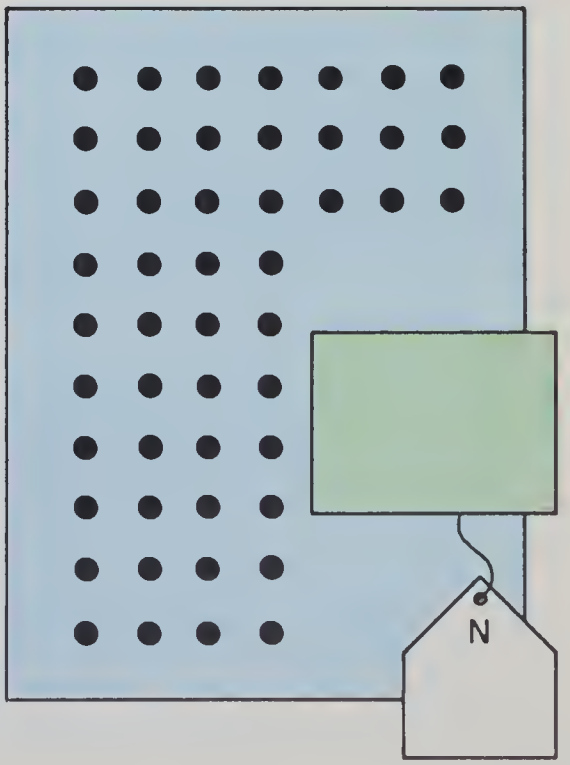
L.



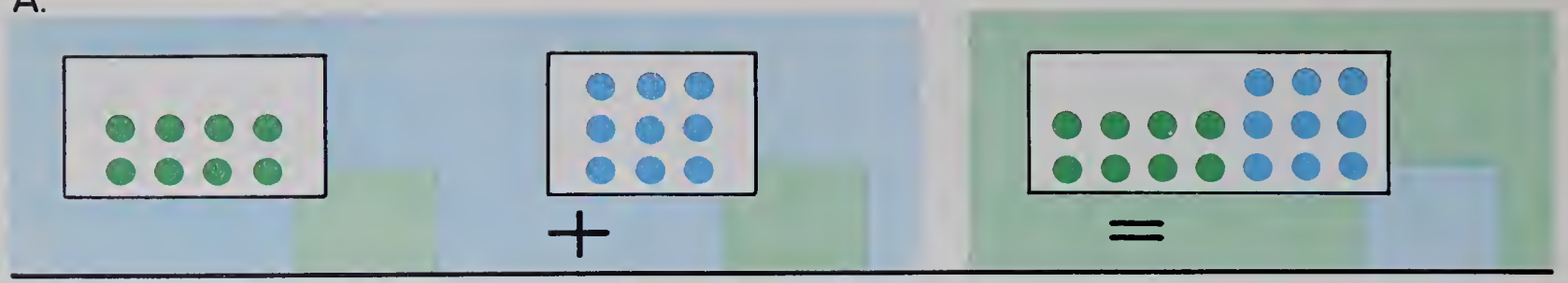
M.



N.



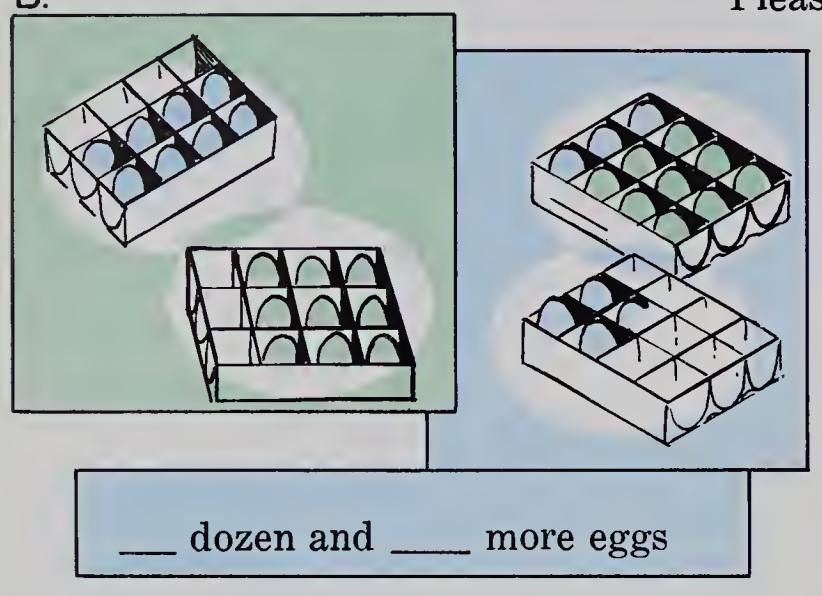
A.



All about 8 + 9 =

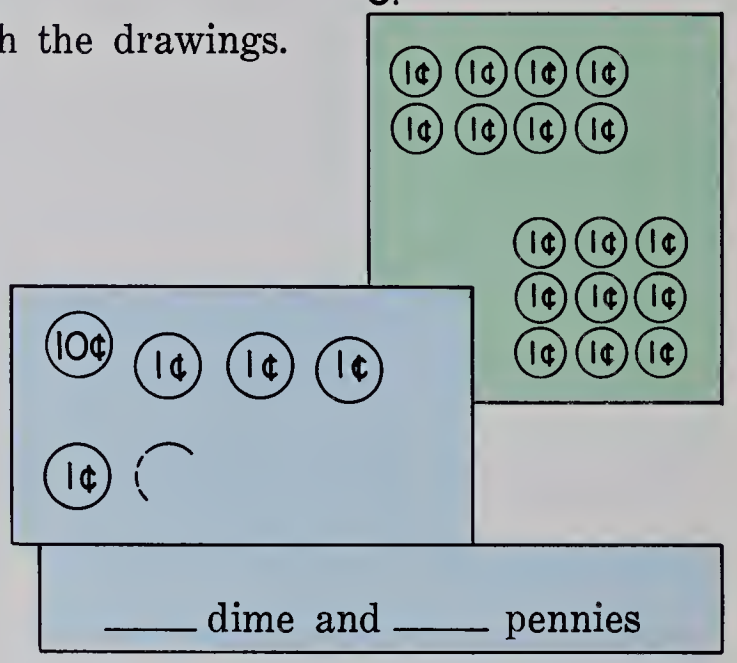
B.

Please finish the drawings.



___ dozen and ___ more eggs

C.



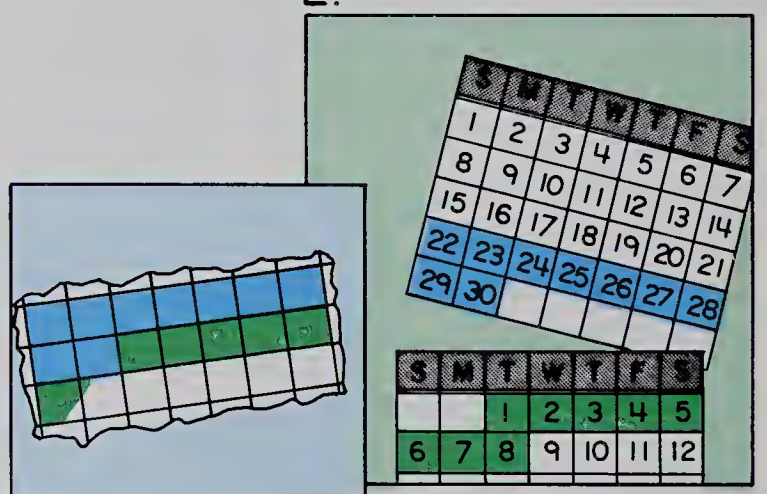
___ dime and ___ pennies

D.

An 8-ounce package and a 9-ounce package are weighed together. There are 16 ounces in a pound.

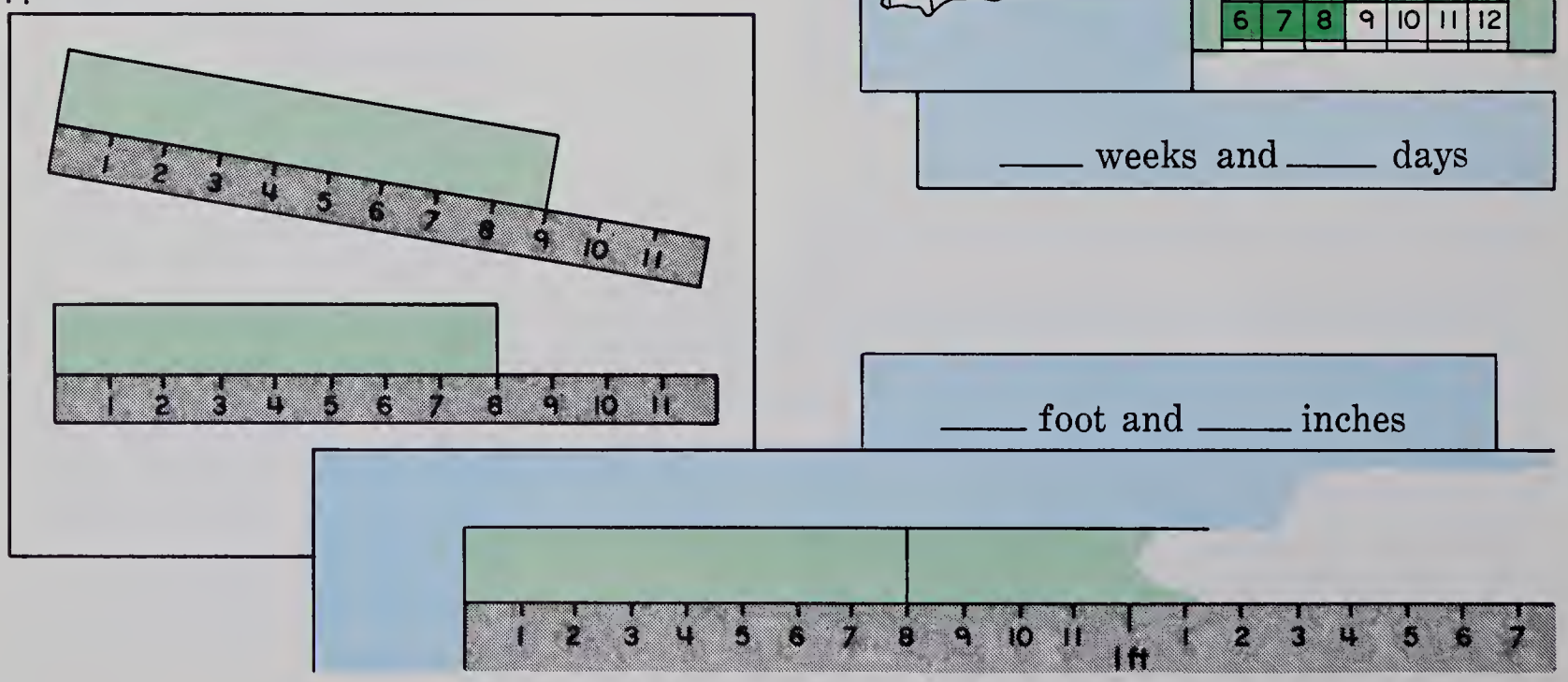
___ pound and ___ ounce

E.



___ weeks and ___ days

F.



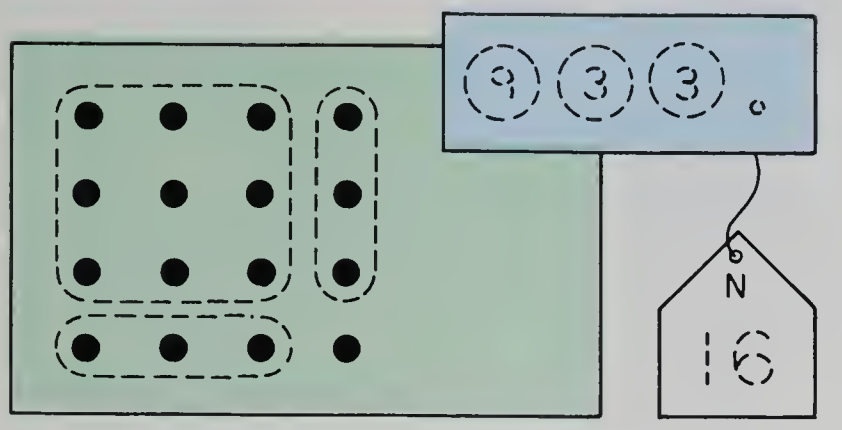
___ foot and ___ inches

Draw loops around groups of 9. Then draw loops around groups of 3 not already in a group of 9. No dot can be in two groups.

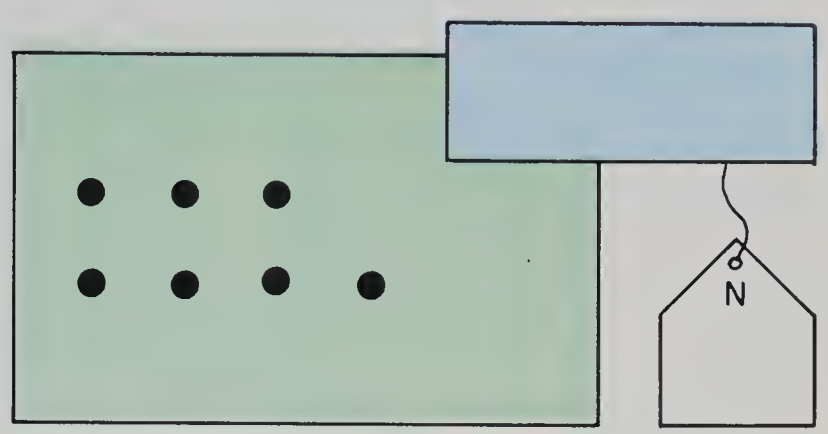
Record results:

⑨ ..... a group of 9
③ ..... a group of 3
• ..... dots not in a group

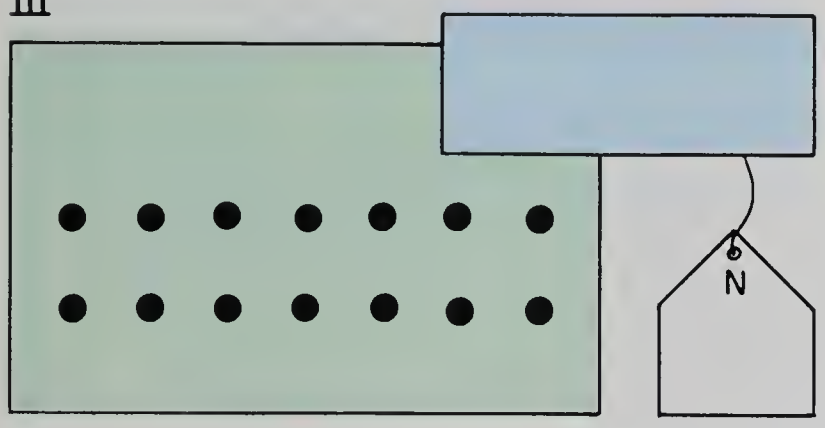
I One way of grouping



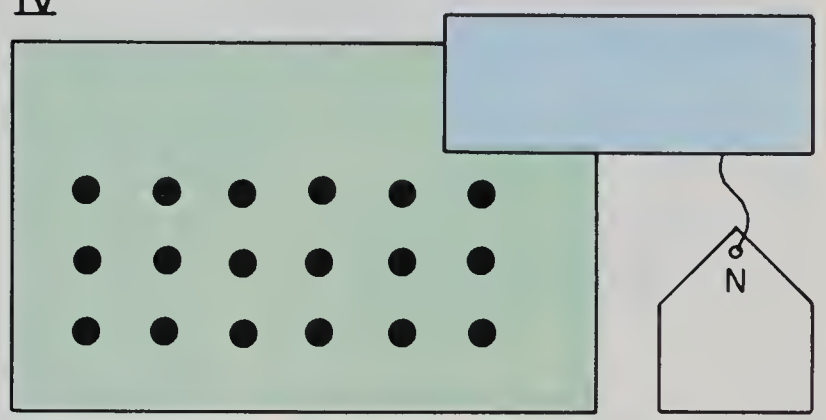
II



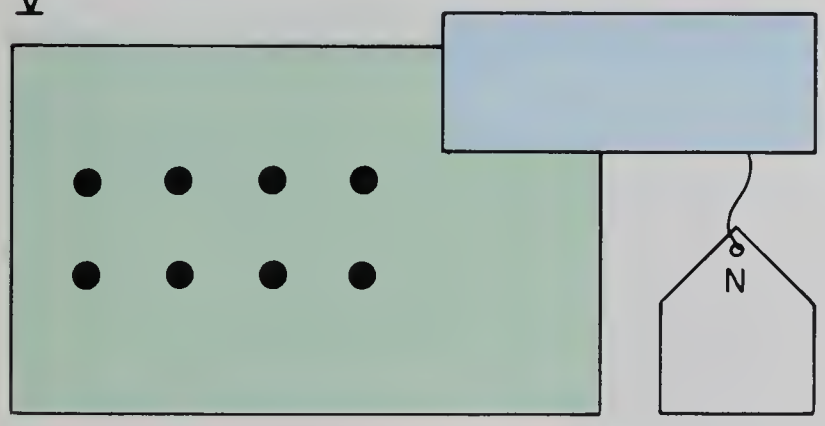
III



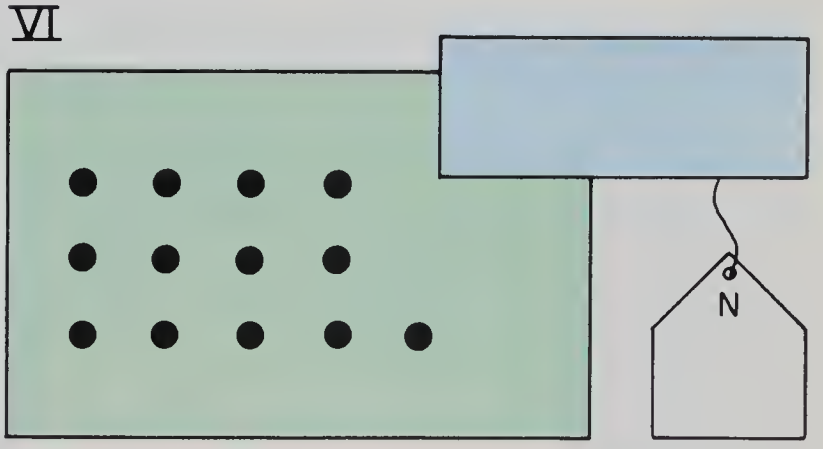
IV



V



VI



What Are My Rules?

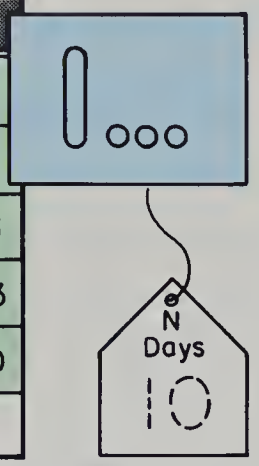
VII

△ - 3	12	17	20		27		29			
△	15	20	23	29		21				
△ - 13	2	7		16				0	13	27

The symbol ▯ means 7 days, the symbol o means 1 day. Record in the blue space the total number of days colored green. Use the least number of symbols possible in each case.

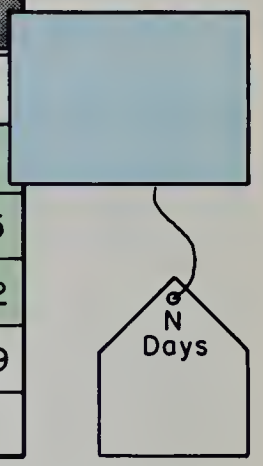
A. JANUARY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						



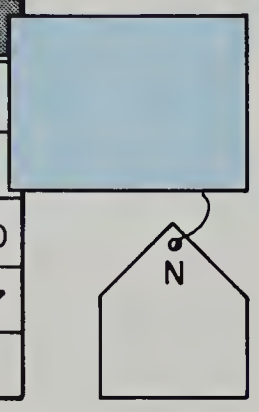
B. MAY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					



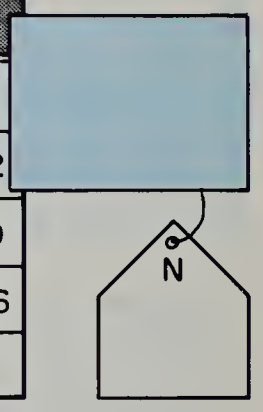
C. FEBRUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						



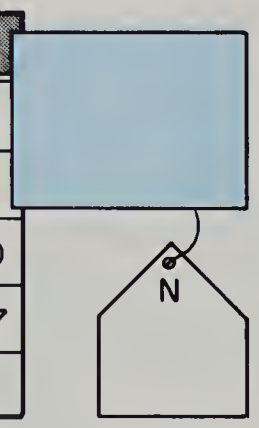
D. JUNE

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			



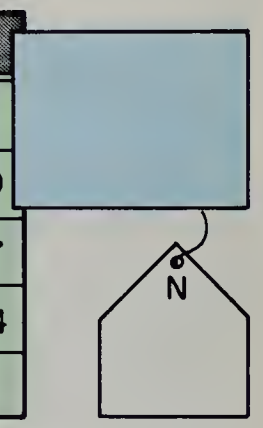
E. MARCH

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			



F. JULY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



G. APRIL

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

H. AUGUST

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

ALL ABOUT 27

Finish the pictures.

N
Squares
27

27
Counters

Abacus or
Counting Frame

___ tens and ___ units

Calendar

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

___ wks. and ___ days

27
Days

27
Eggs

Dozens of Eggs

___ doz., and ___ more eggs

___ ft. and ___ in.

Yardstick

3 6 9 1 ft 3 6 9 2 ft 3 6

27 Inches

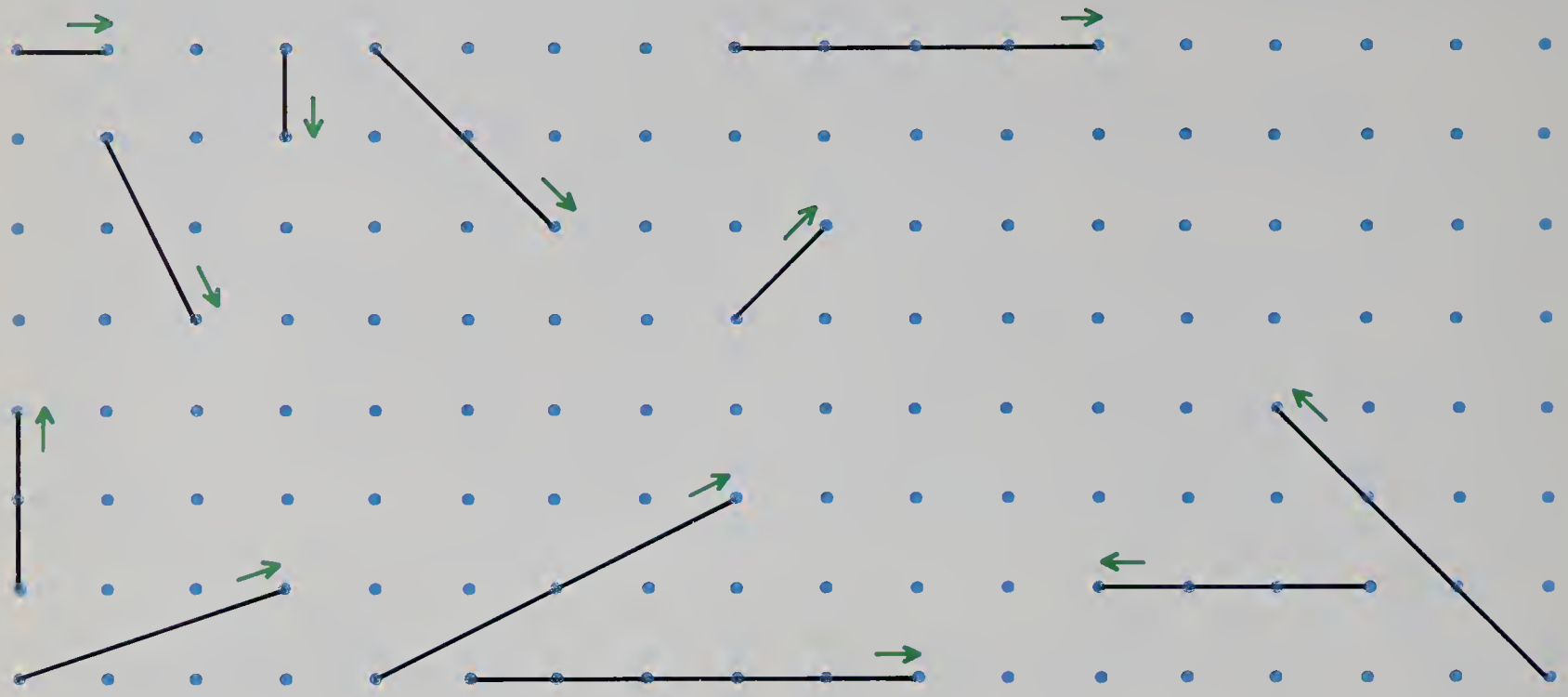
27
Pennies

Money

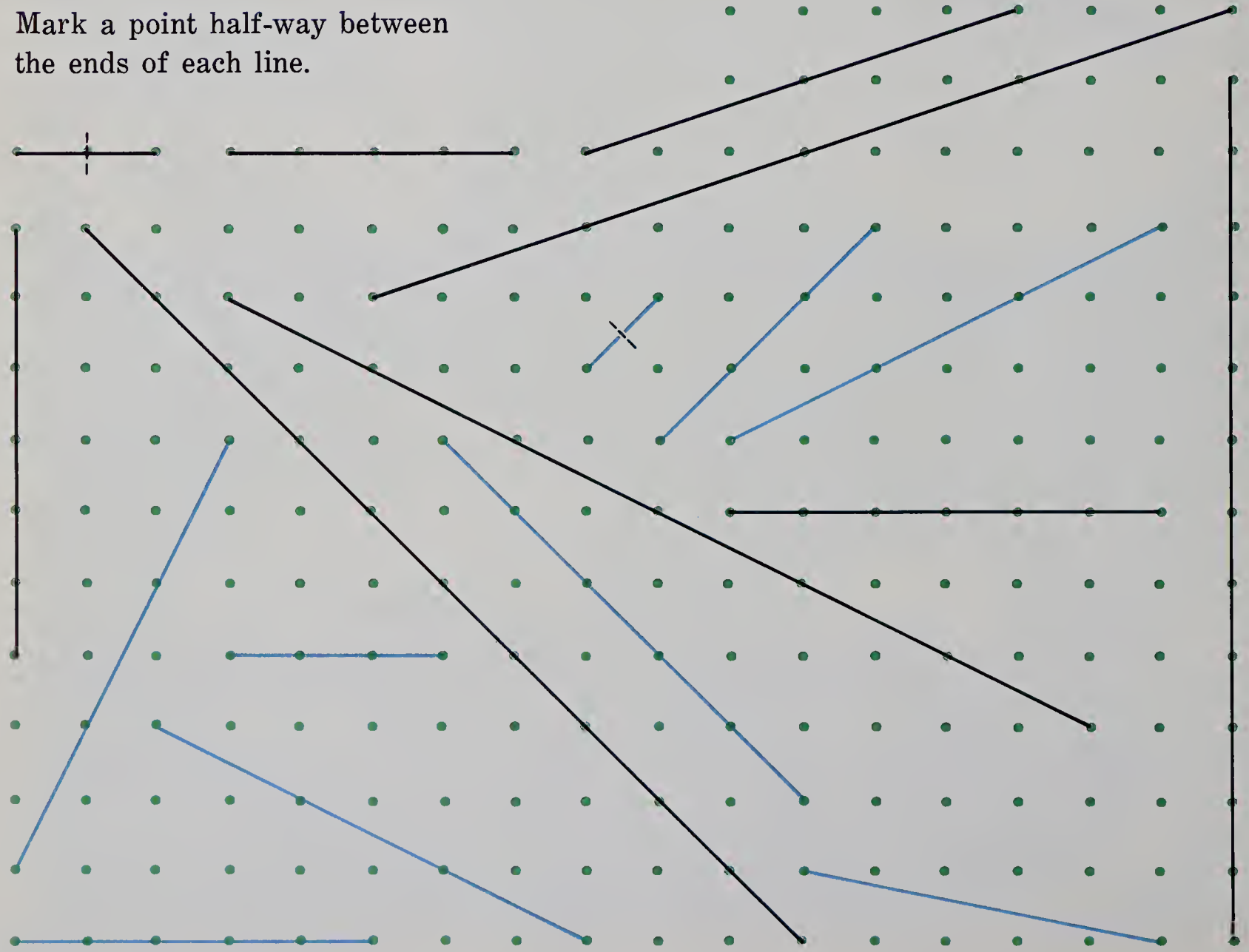
___ dimes and ___ pennies

Follow the green arrows.

Make each line twice as long as it is drawn. Extend each in the direction indicated by the green arrow.

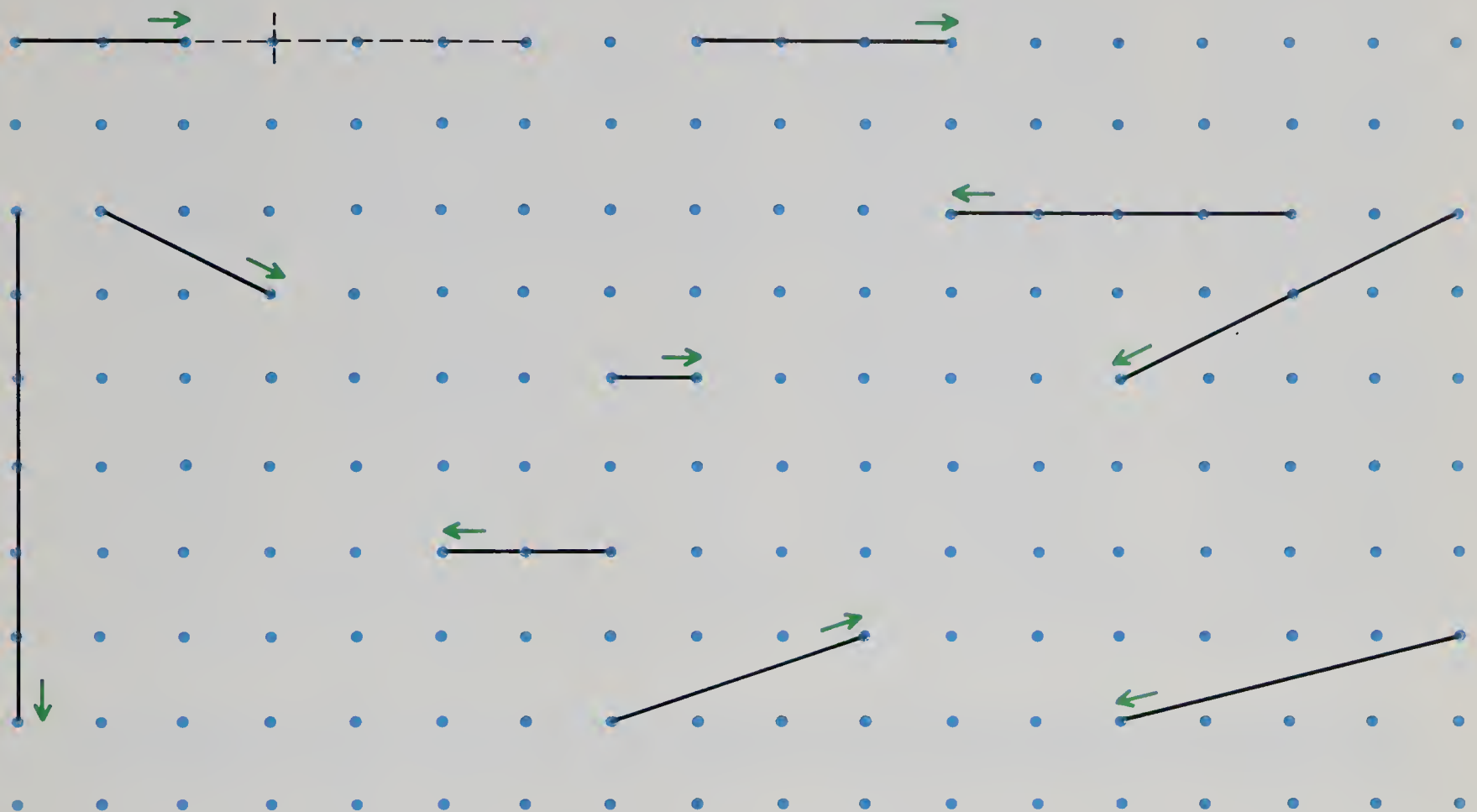


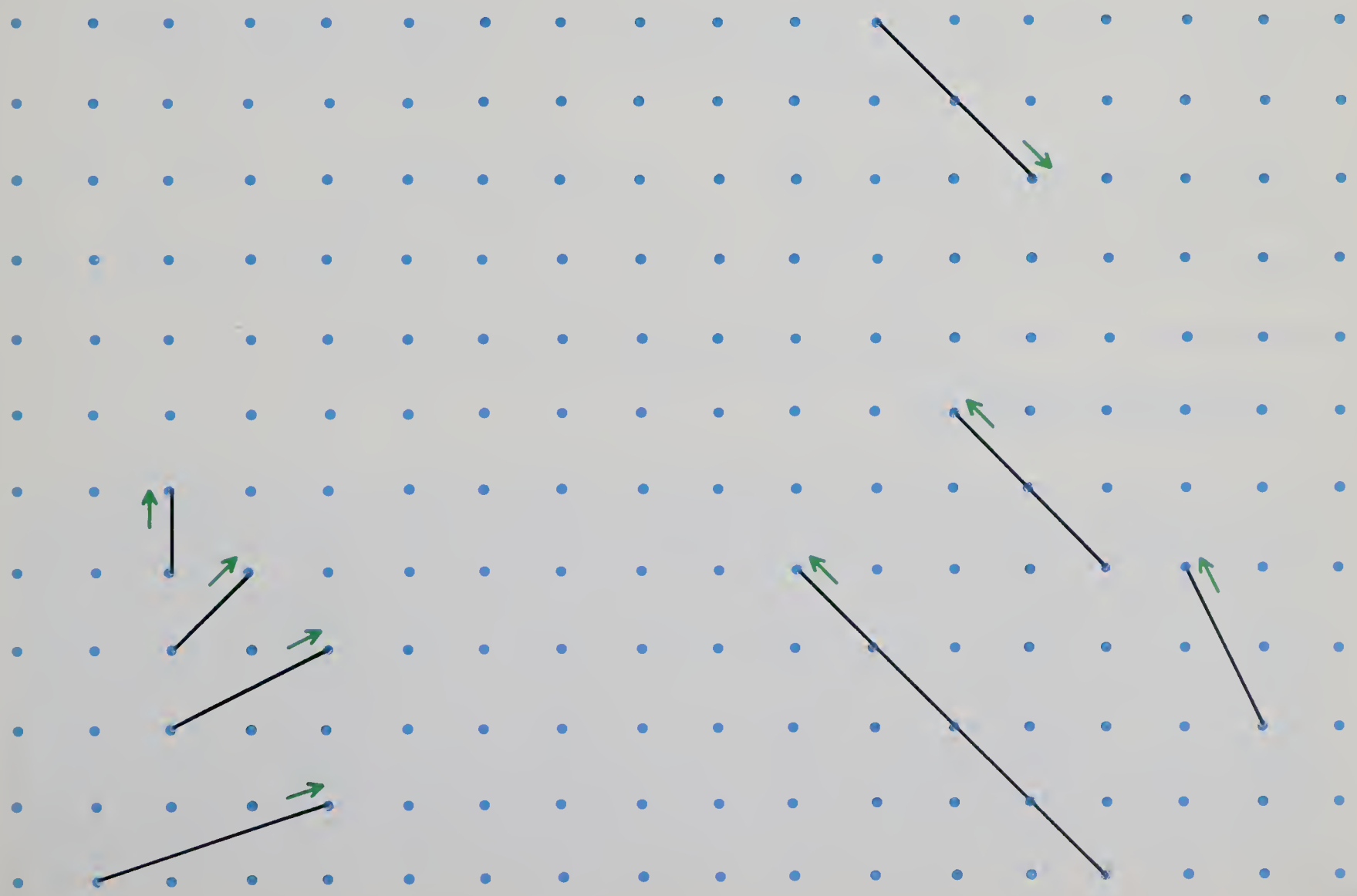
Mark a point half-way between the ends of each line.

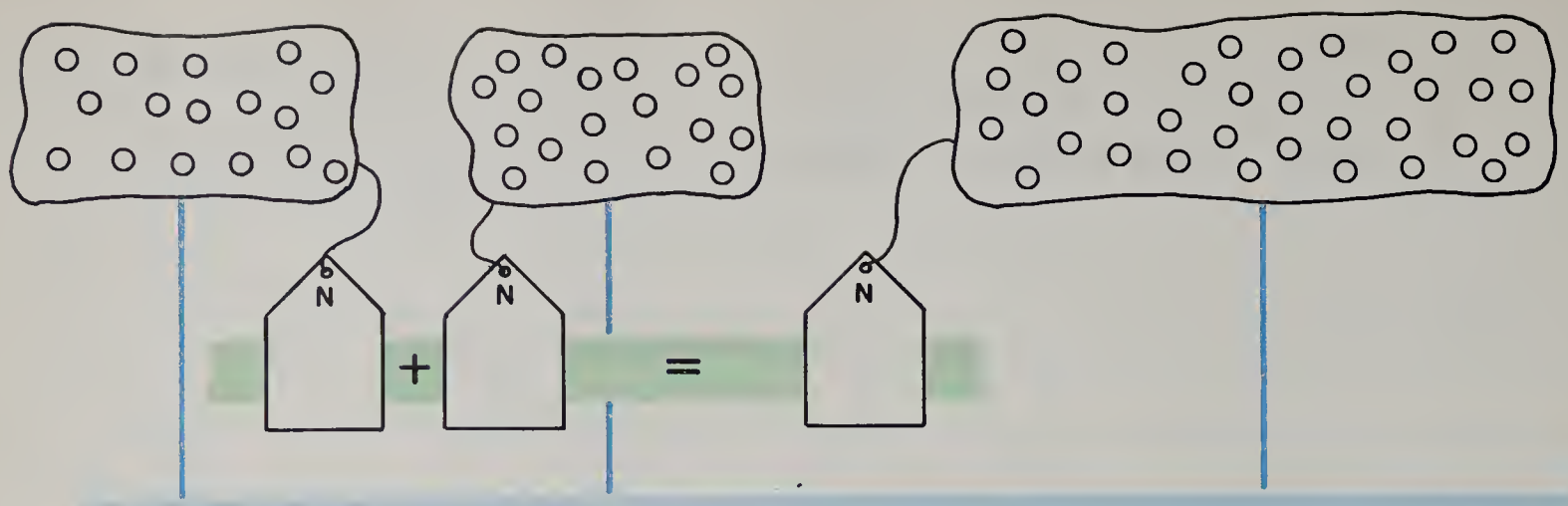


Problem one: Make each line three times as long as it is drawn. Extend each in the direction shown by the green arrow.

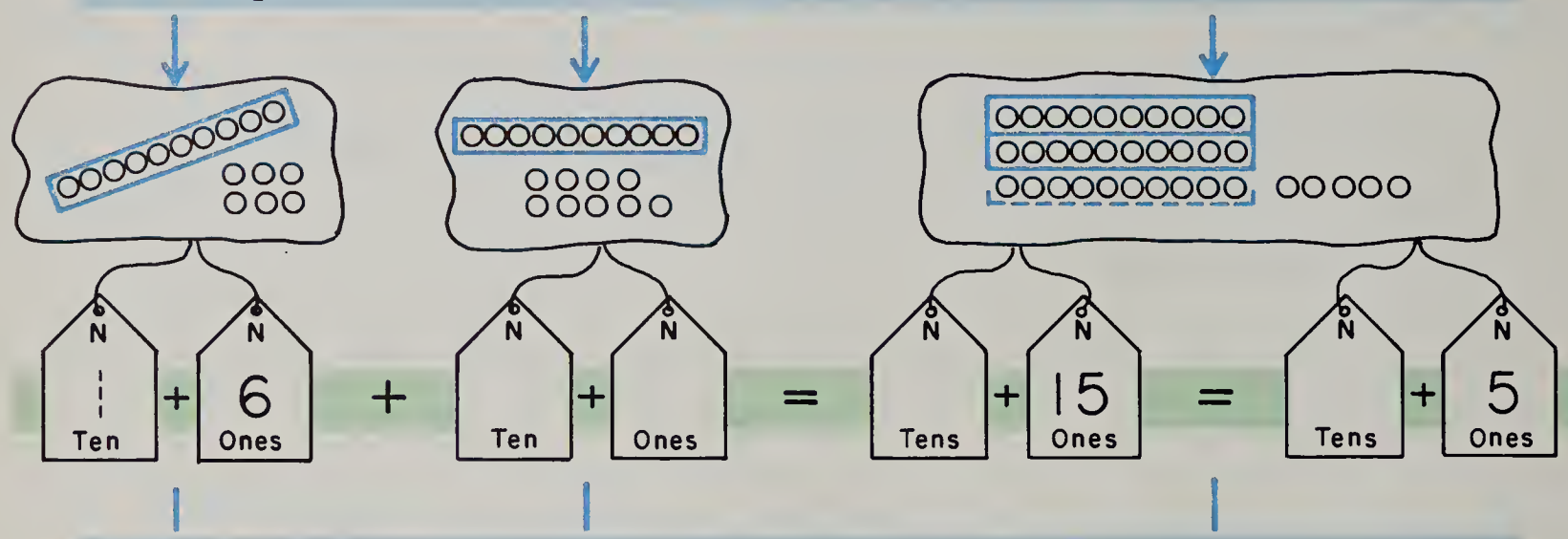
Problem two: Mark a point half-way between the ends of each extended line.



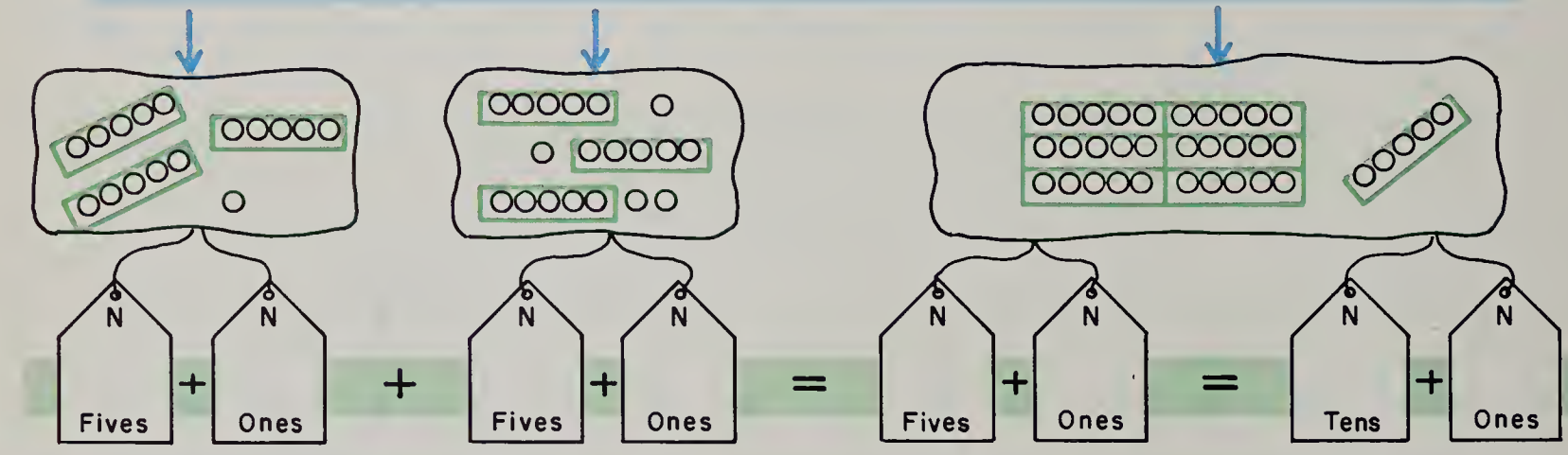




Each picture below has the same number of balls as the picture above it.

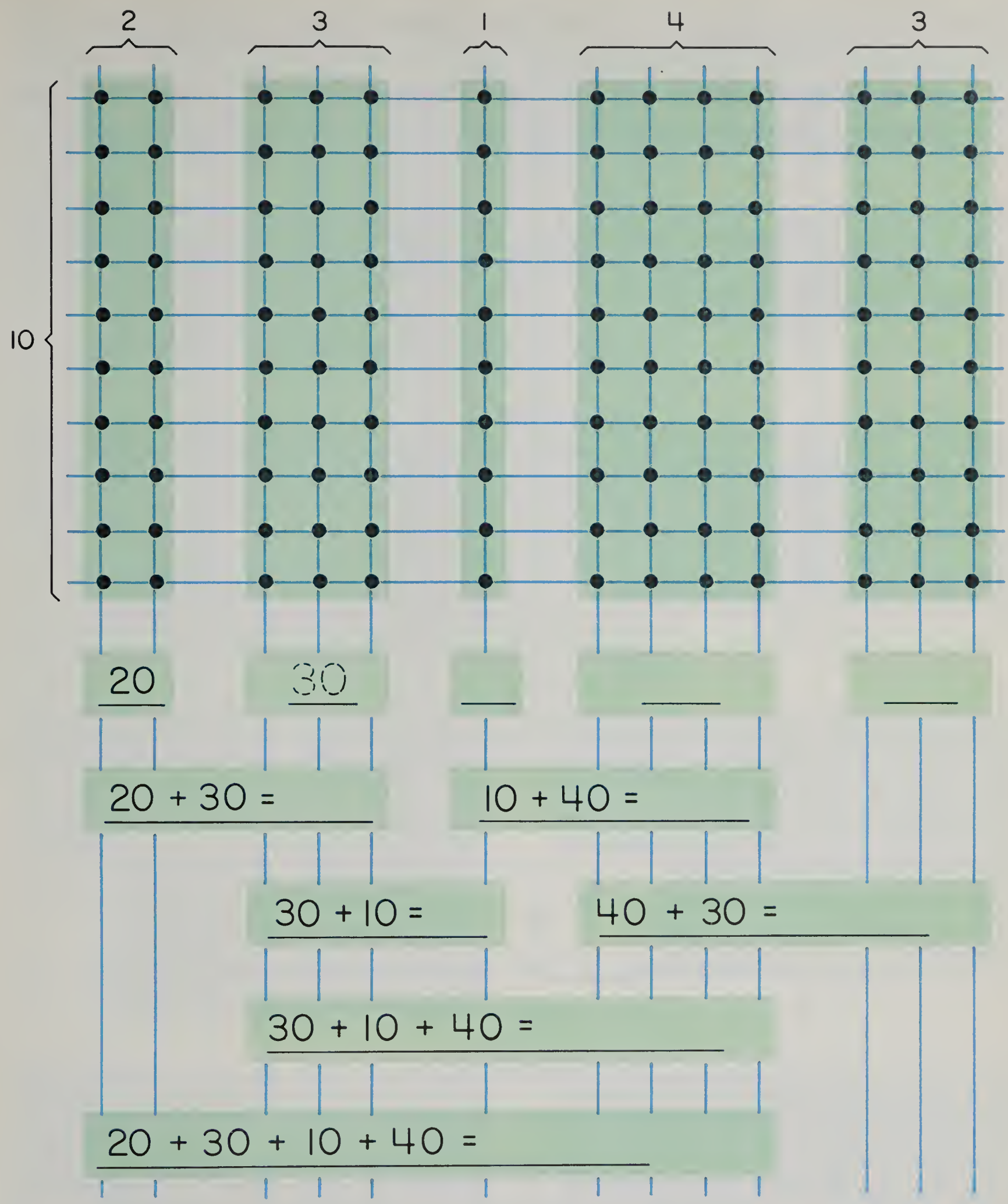


The balls could have been grouped in 5's and 1's as shown below.



What Are My Rules?

□ + △	7	10			29				20	26
□	4	8	9	10	20		16			
△	3	2	4	5		7		20		
□ − △	1	6				0	8	40	6	8

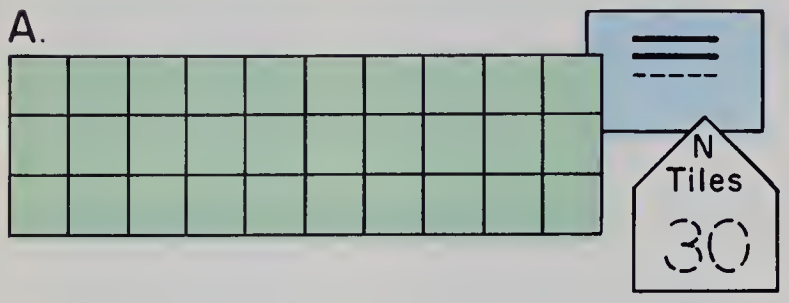


20	10	20	40	50	10
+ 10	+	+ 20	− 10	−	+
	20			30	50

In each row there are 10 tiles.

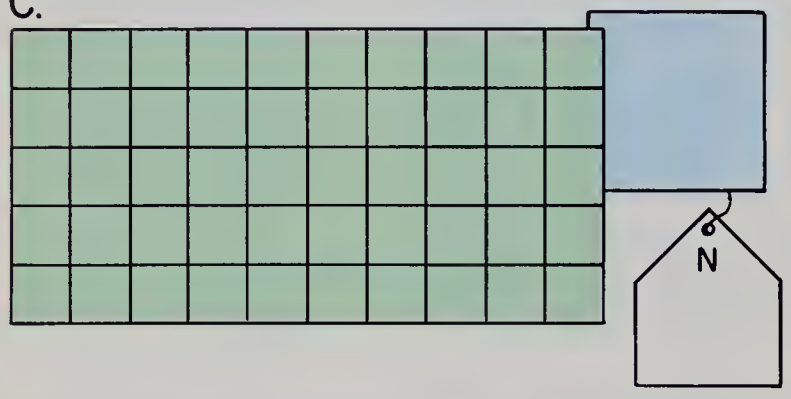
Use —— to stand for a row of tiles. In each blue space record the number of rows. In each tag record the total number of tiles.

A.

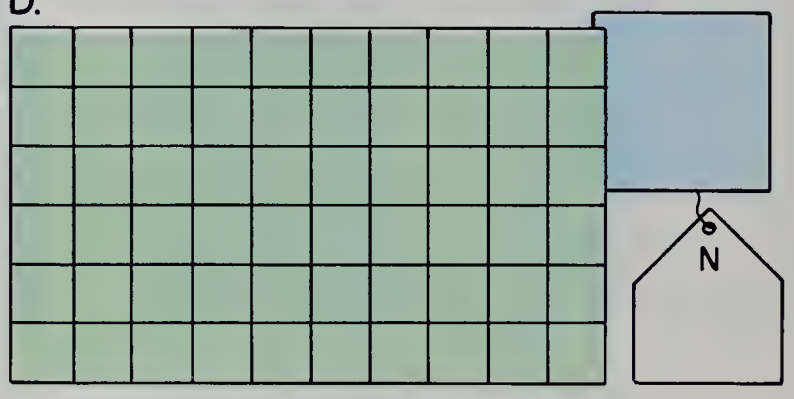


B.

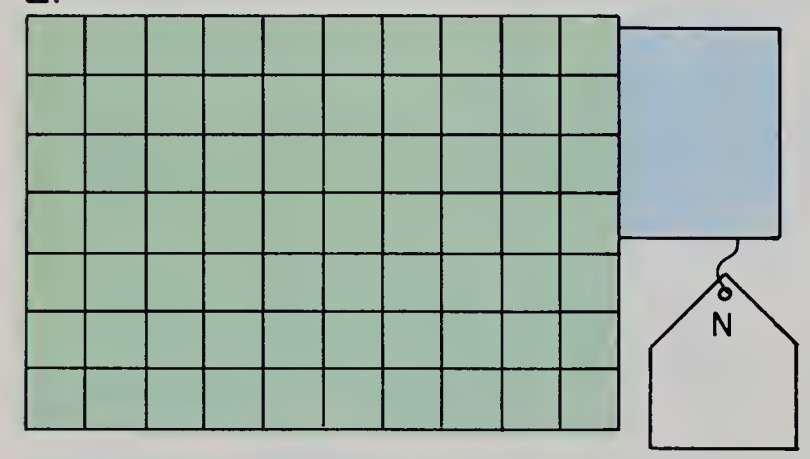
C.



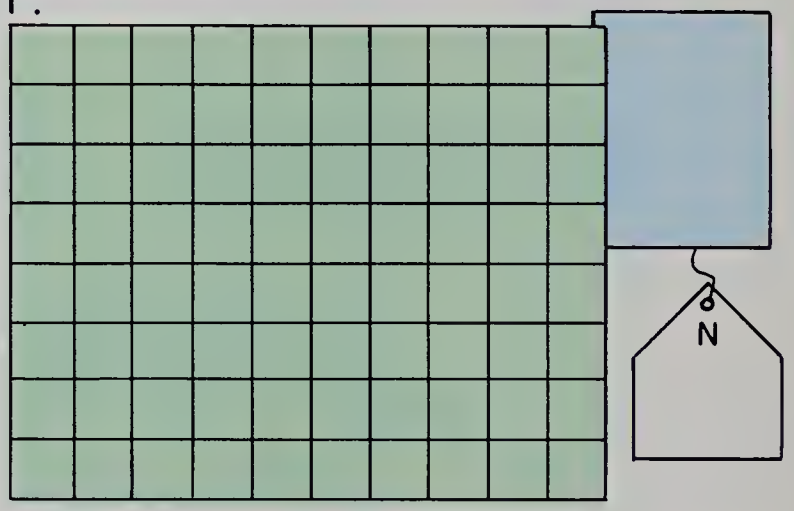
D.



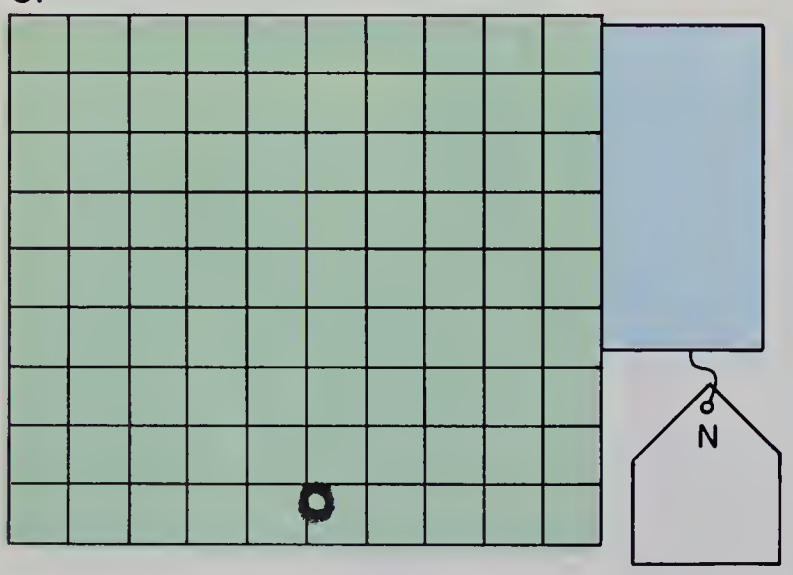
E.



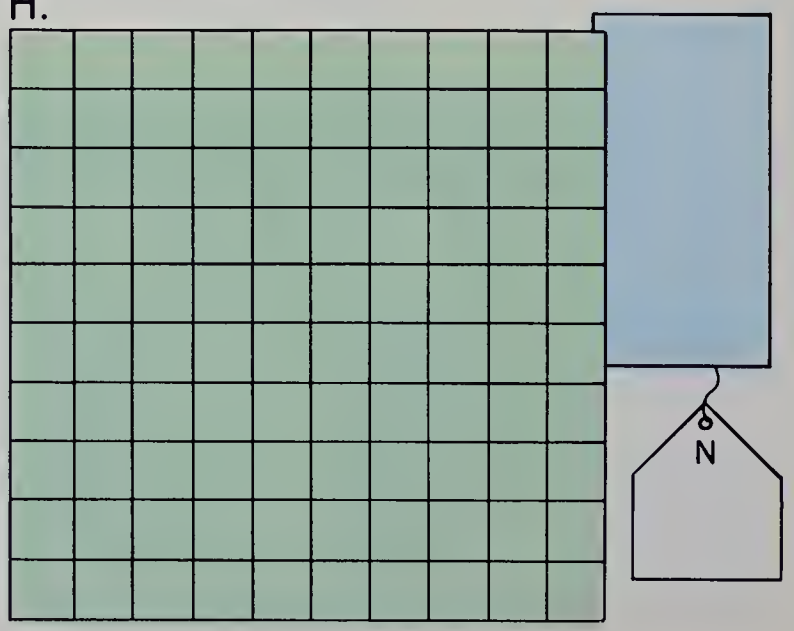
F.



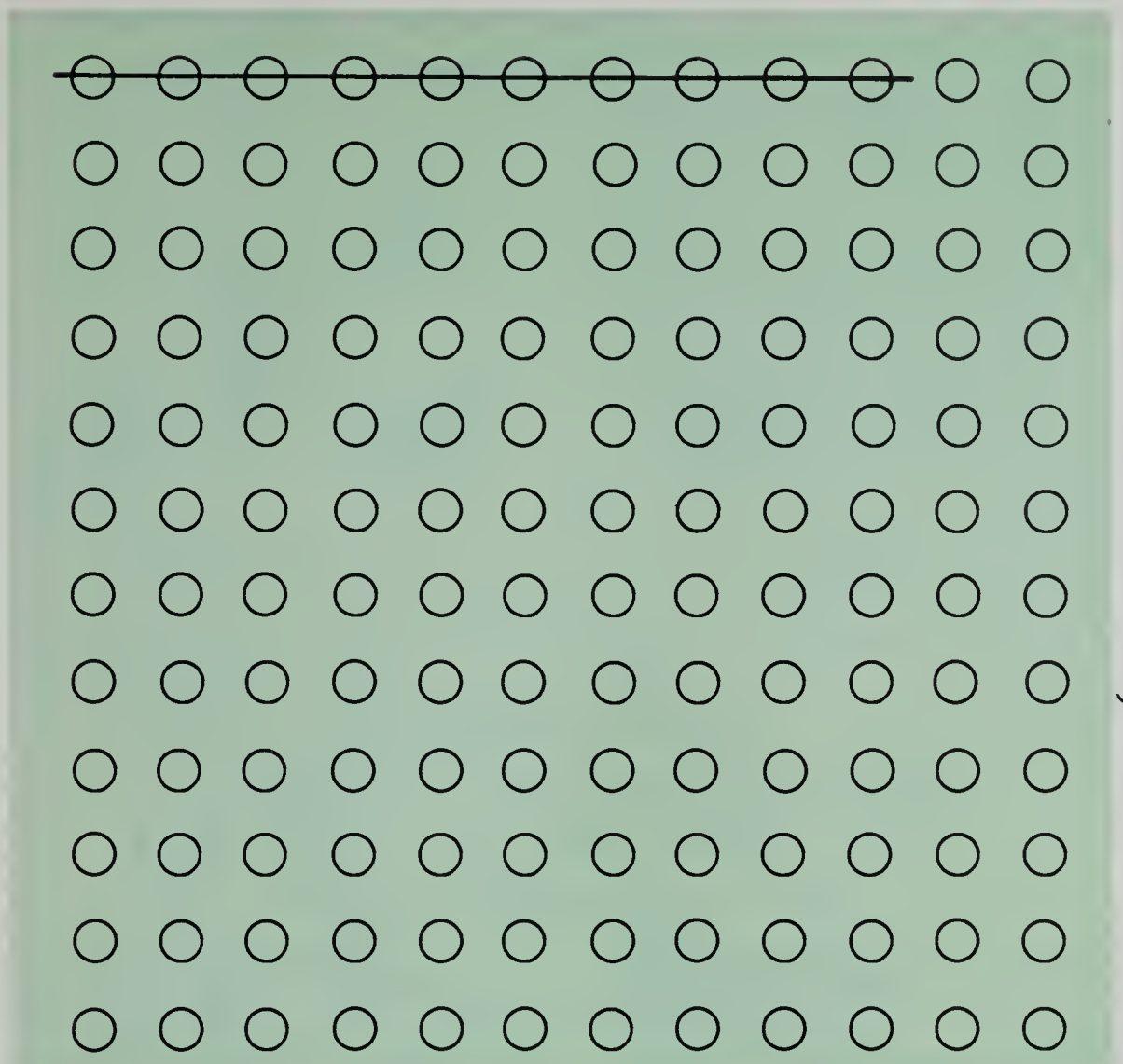
G.



H.



HOW MANY BEADS IN EACH PICTURE?



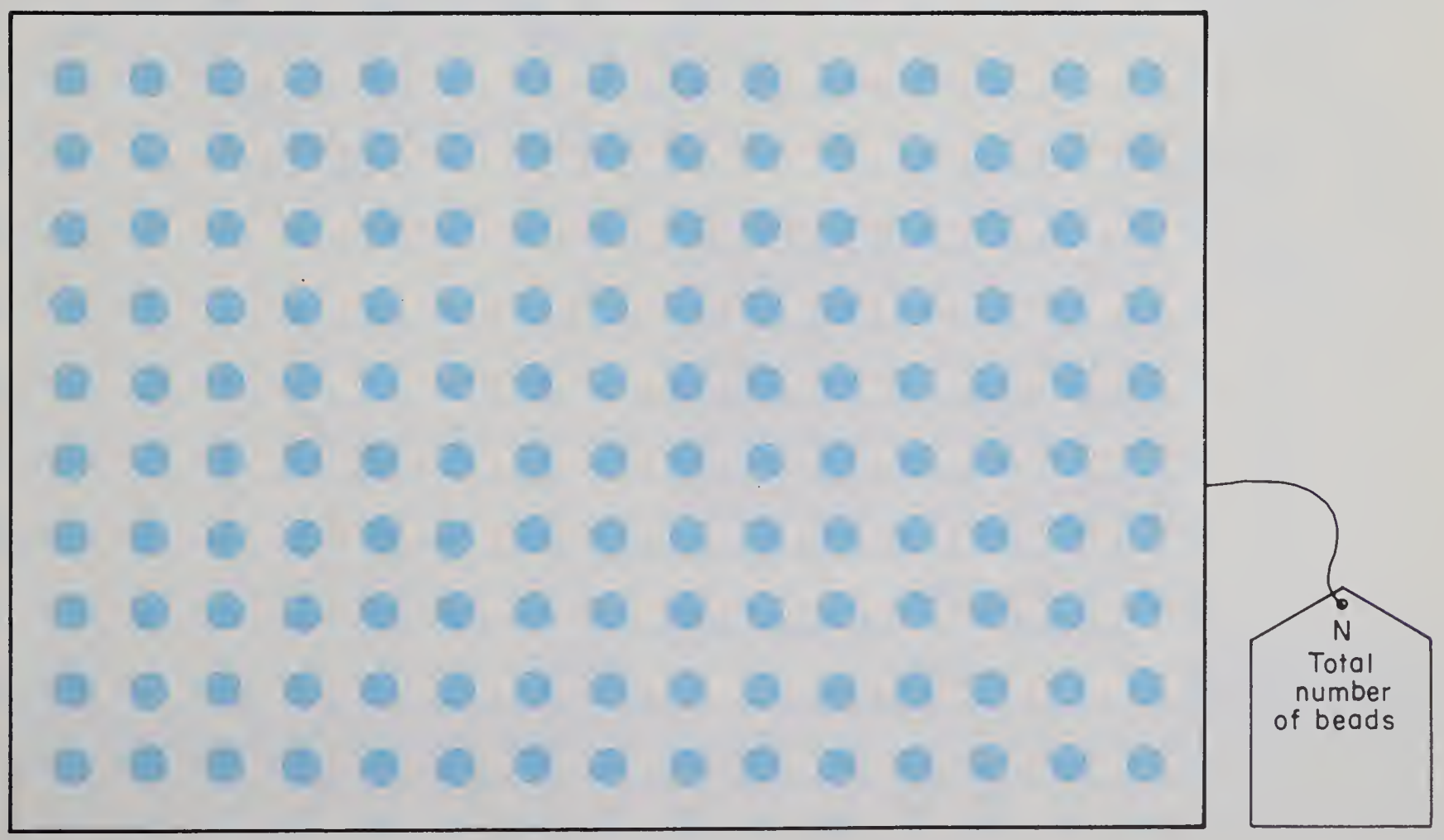
How many strings of beads with 10 beads on each string?

Answer: _____

Draw a loop around 100 beads.

How many beads altogether?

N
Total number of beads

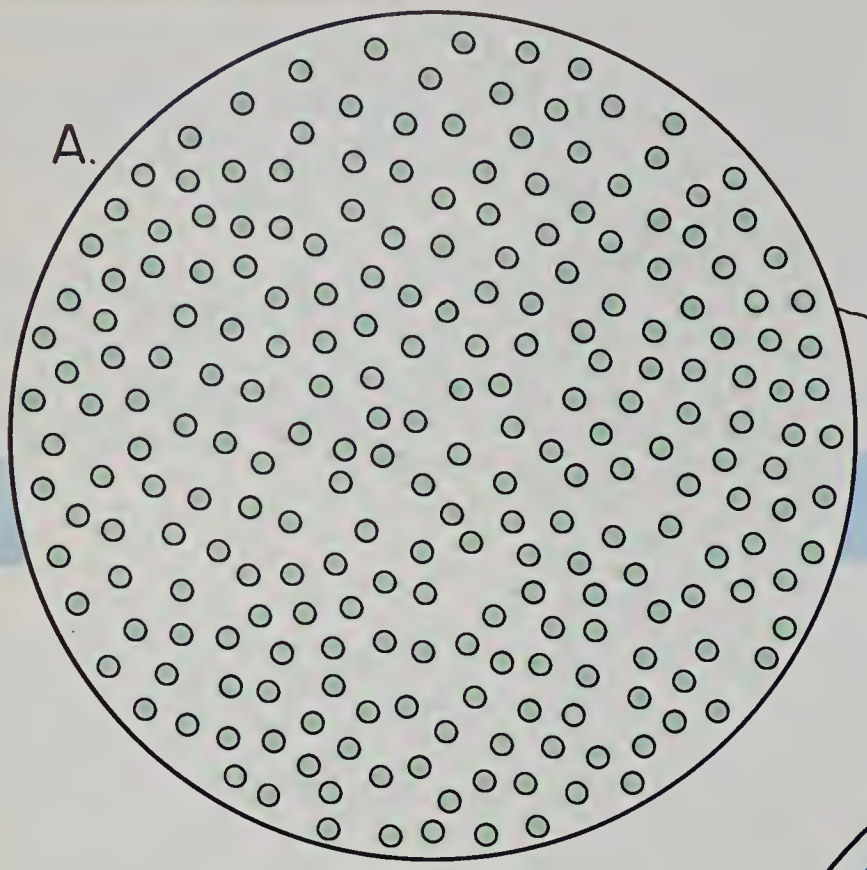


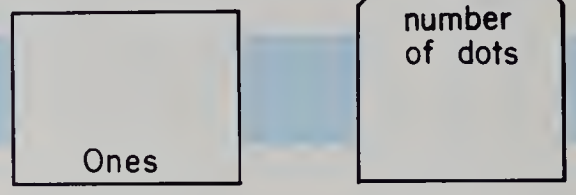
N
Total number of beads

How Many Dots?

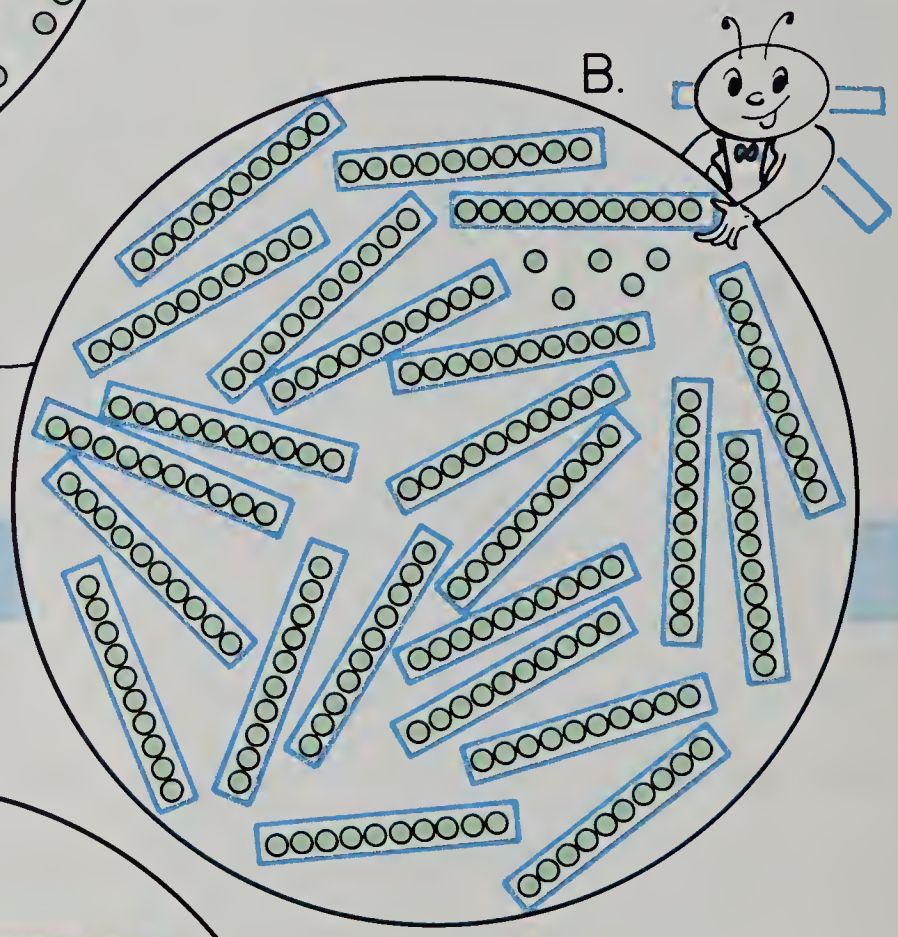
There are the same number of dots in each of the pictures.

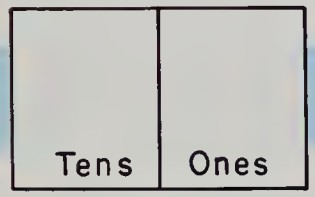
A.



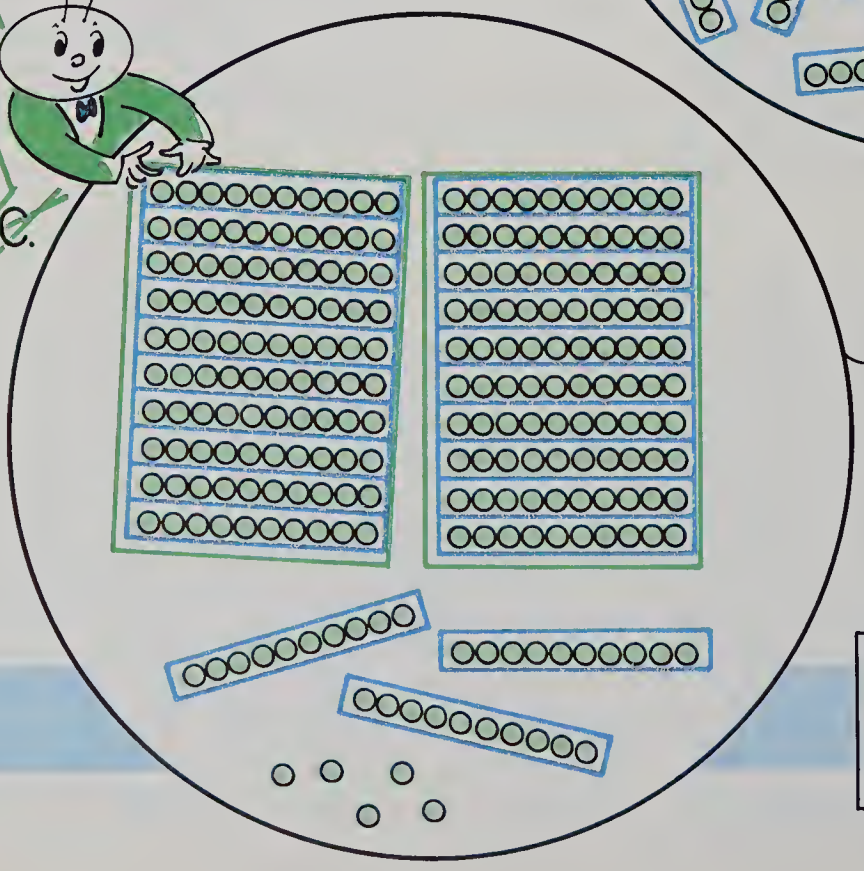


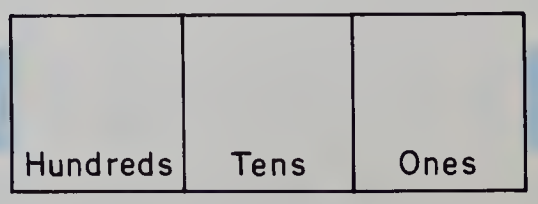
B.





C.





N { ○○○○○○○○○○ } = 10

N { | } = 10

N { ○○○○○○○○○○ / ○○○○○○○○○○ / ○○○○○○○○○○ / ○○○○○○○○○○ / ○○○○○○○○○○ / ○○○○○○○○○○ / ○○○○○○○○○○ / ○○○○○○○○○○ / ○○○○○○○○○○ / ○○○○○○○○○○ } = 100

In shorthand

1. N { • | • } = 10

2. N { • - - - • } = ⬡

3. N { • - - - • / | / | / • - - - • } = 100

4. N { • - - - • | | | | | • • } = 143

5. N { • - - - • | | | | | • - - - • } = ▱

6. N { • - - - • | | • • } = ⏢

7. N { • - - - • / | / | / • - - - • } = ⬭

8. N { • - - - • | | • - - - • | | | • • • } = ⬭

9. N { • - - - • | | • - - - • | | • - - - • | | • • • } = ▱

10. N { • - - - • | | • - - - • | | • - - - • | | | • • } = ⏢

11. What's My Rule?

6 , 16 , ____ , 36 , ____ , ____ , ____ , ____ , etc.

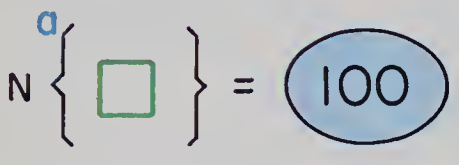
We can simplify our shorthand.

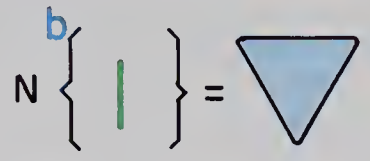
□ represents 100 (beads or other objects counted)

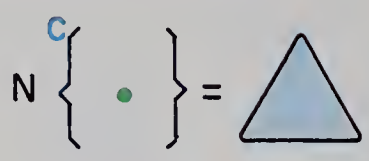
| or — represents 10 (beads or other objects counted)

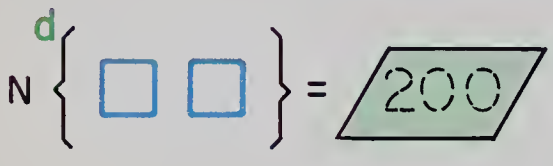
• represents 1 (bead or other objects counted)

So:

a 

b 

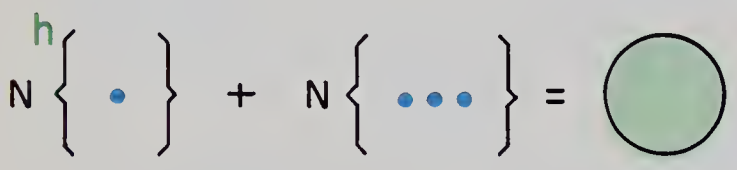
c 

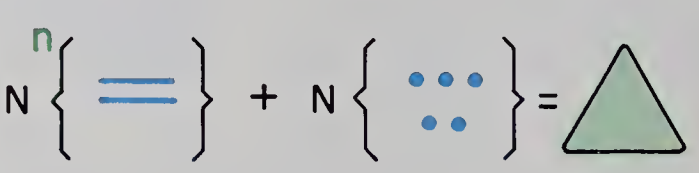
d 

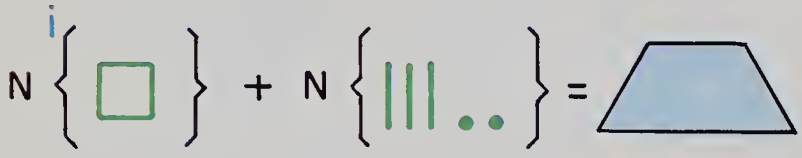
e

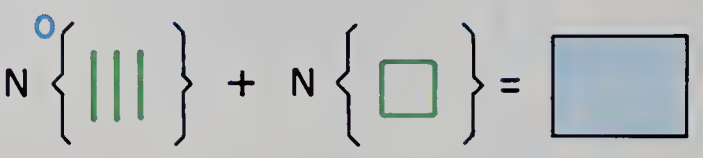
f

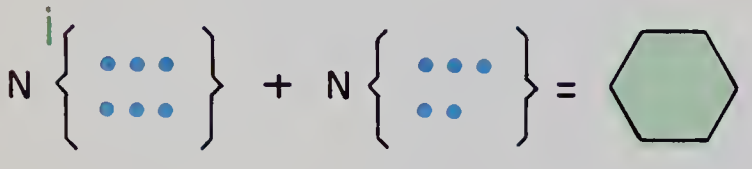
g

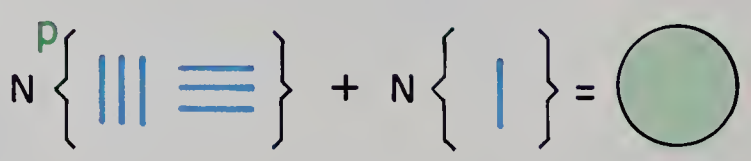
h 

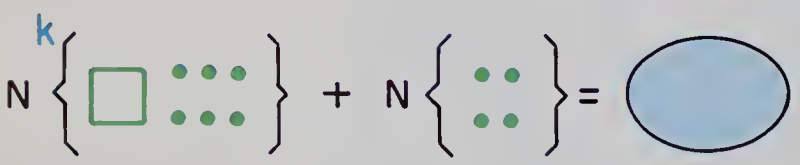
n 

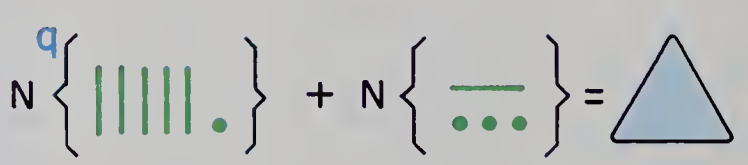
i 

o 

i 

p 

k 

q 

l

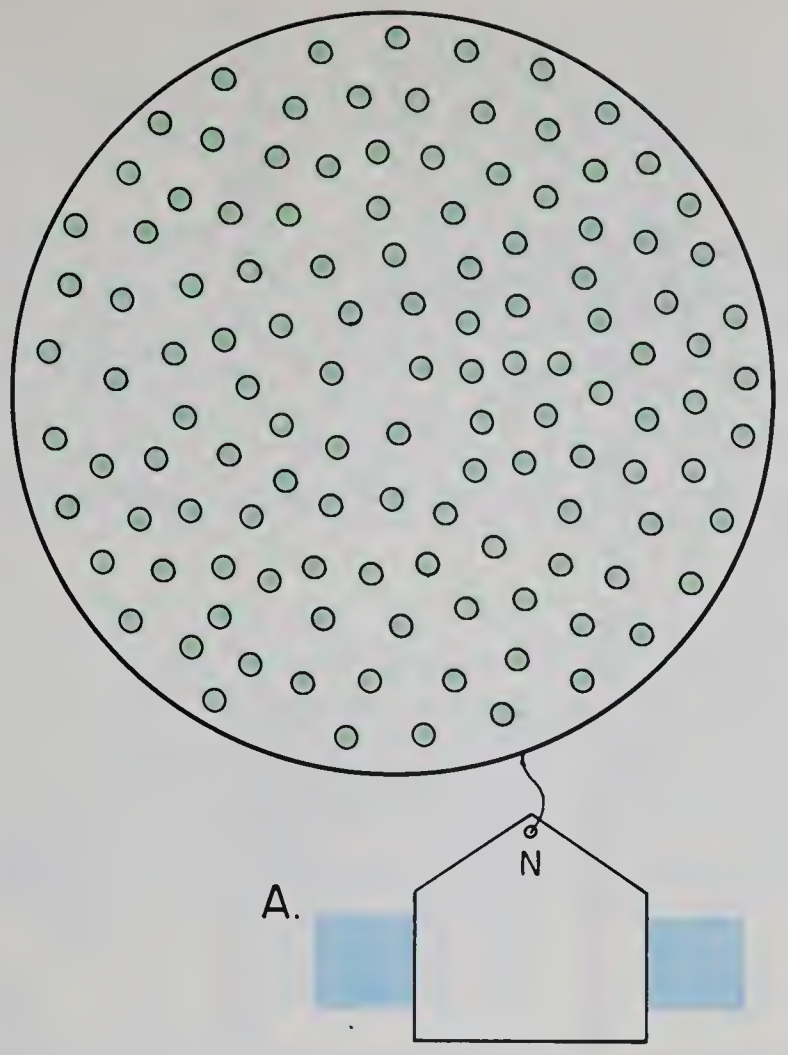
r

m

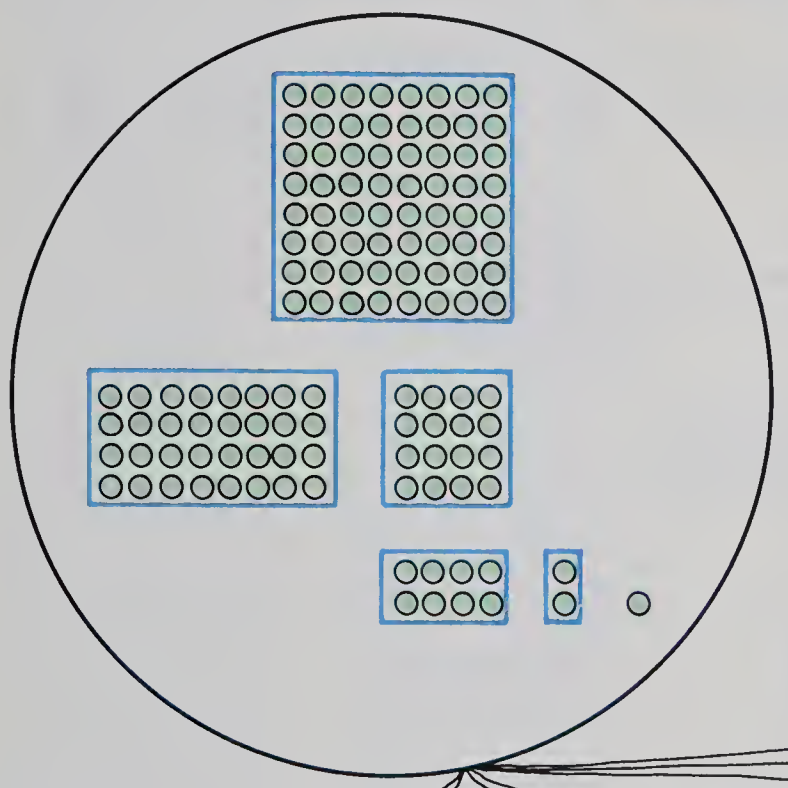
s

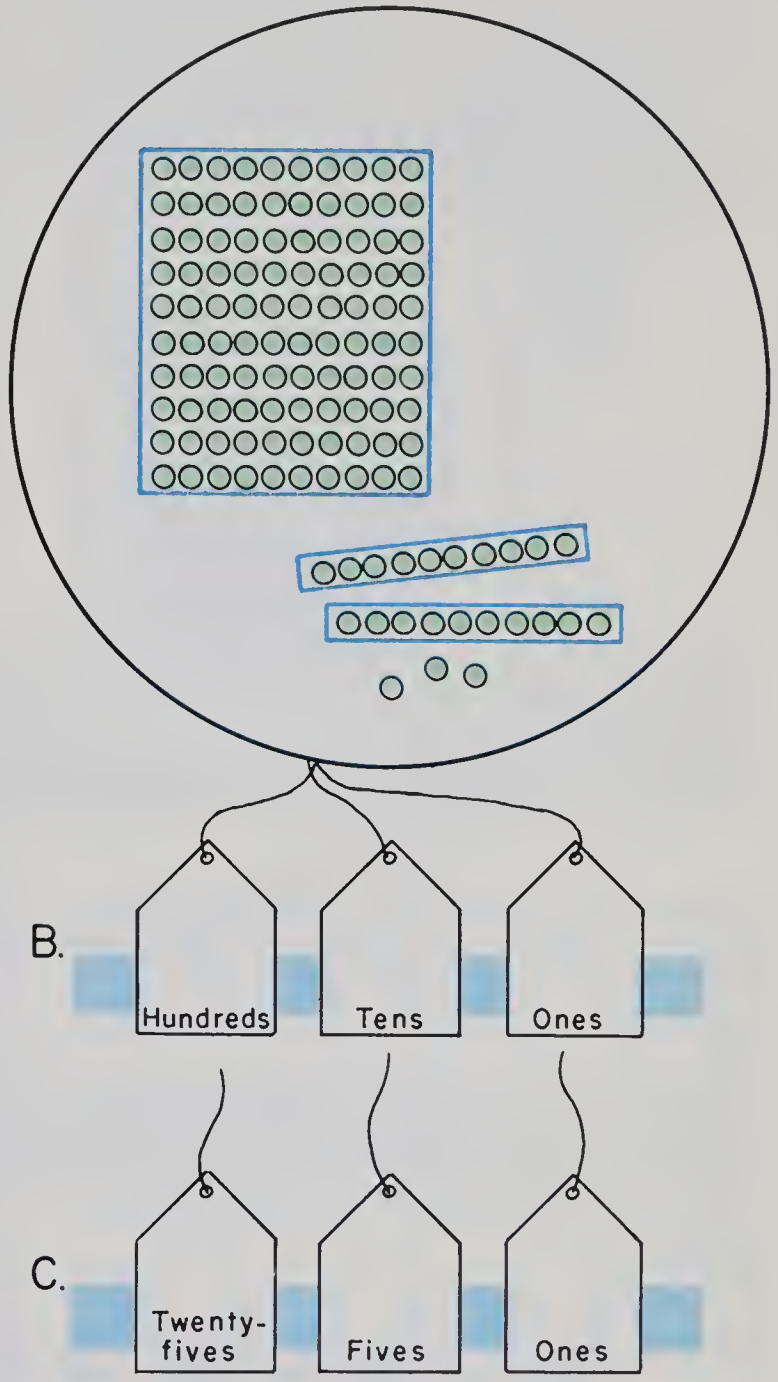
How Many Dots?

There are the same number of dots in each large circle.



A.





B.

Hundreds Tens Ones

C.

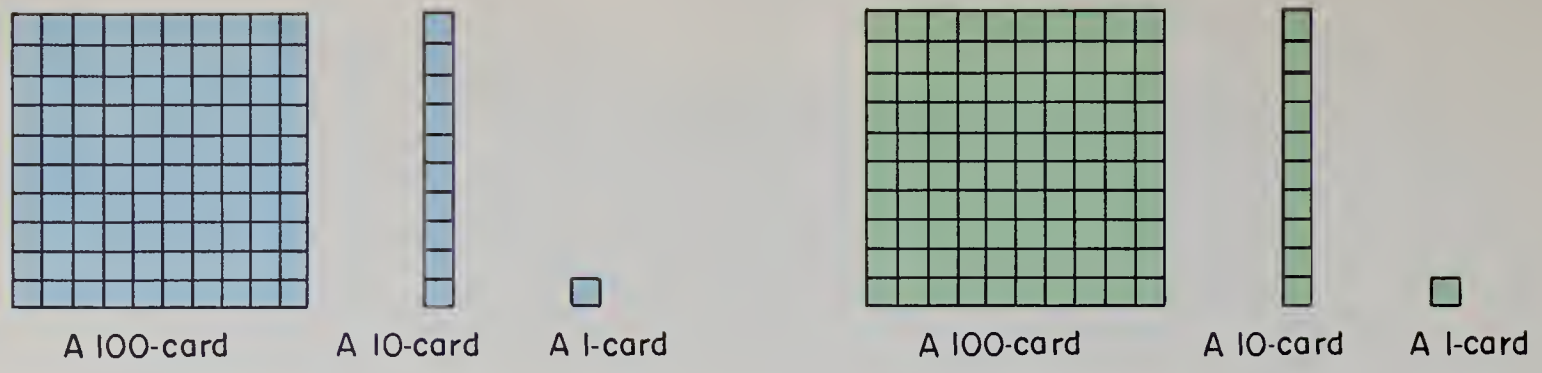
Twenty-fives Fives Ones

D.

Sixty-fours Thirty-twos Sixteens Eights Fours Twos Ones

E. What's My Rule?

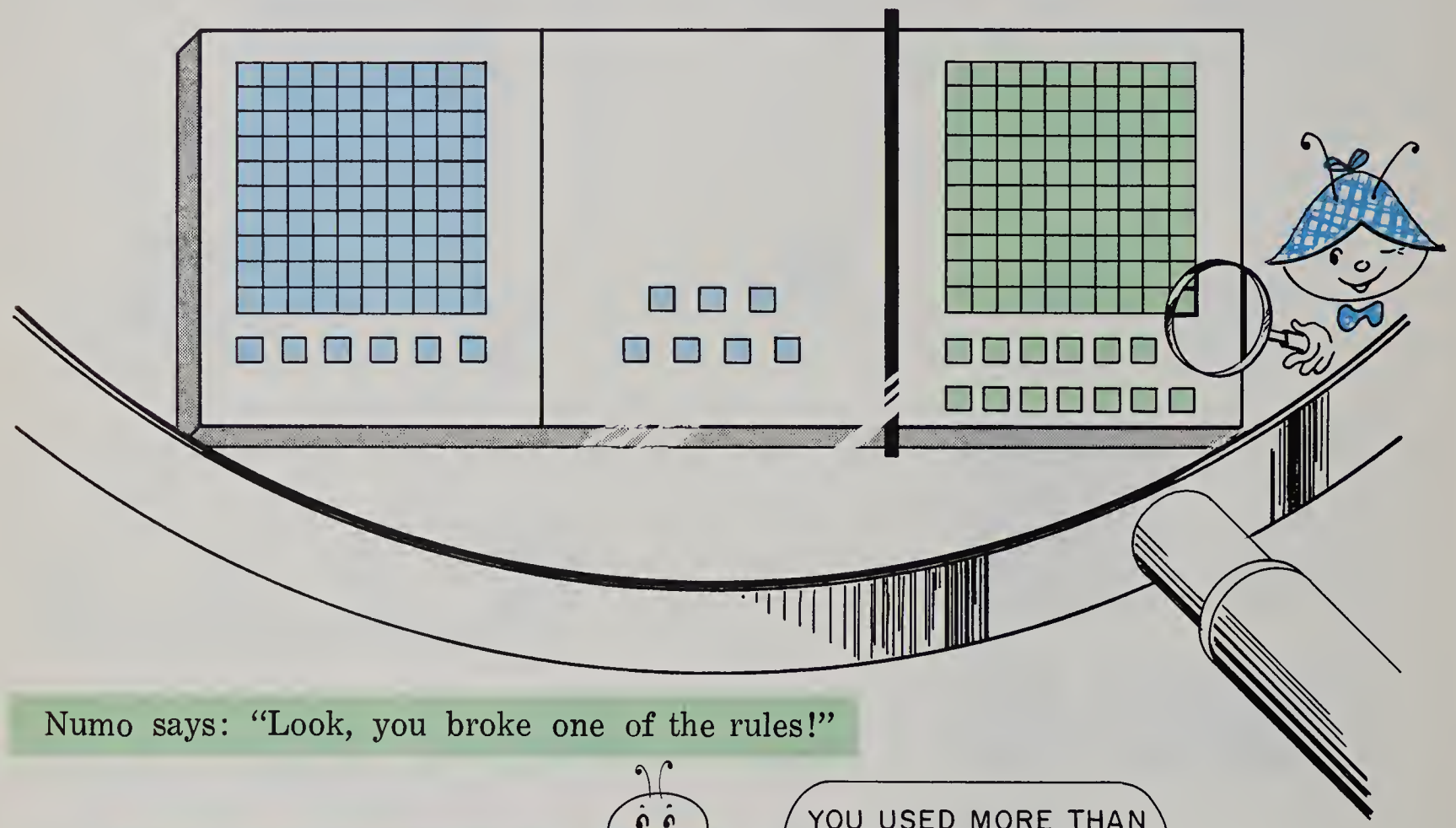
b + b	6	2			16	24	0		30	
b	3	1	5	10				20		25



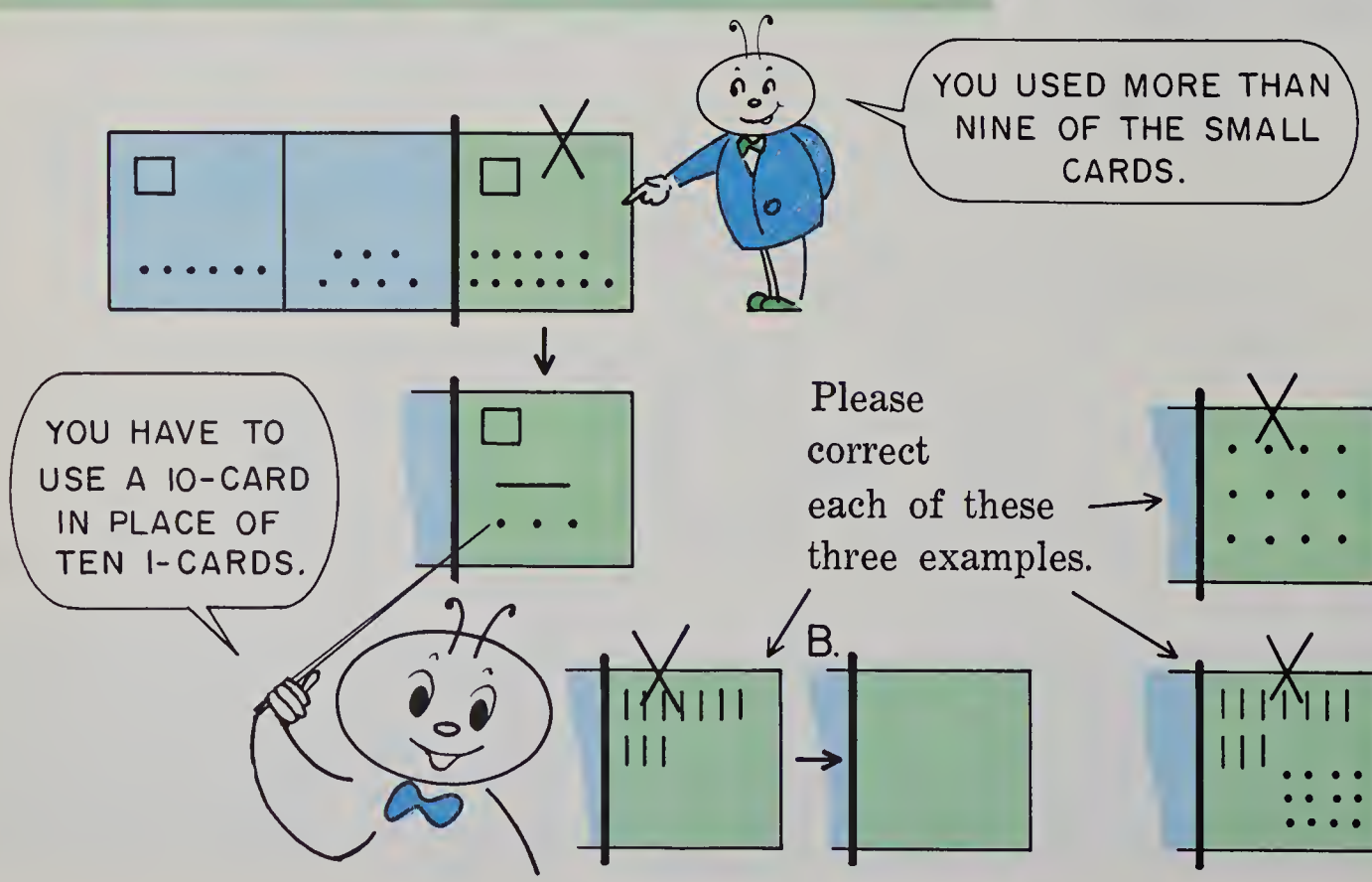
Rules:

(a) There must be the same number of little squares on each side of the heavy line.

(b) There can be no more than 9 of any card in any one of the three boxes.



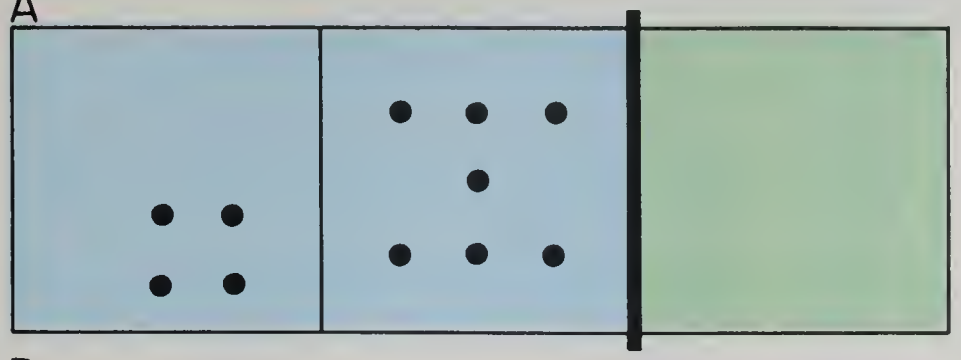
Numo says: "Look, you broke one of the rules!"


YOU USED MORE THAN NINE OF THE SMALL CARDS.
YOU HAVE TO USE A 10-CARD IN PLACE OF TEN 1-CARDS.
Please correct each of these three examples.
A.
B.
C.

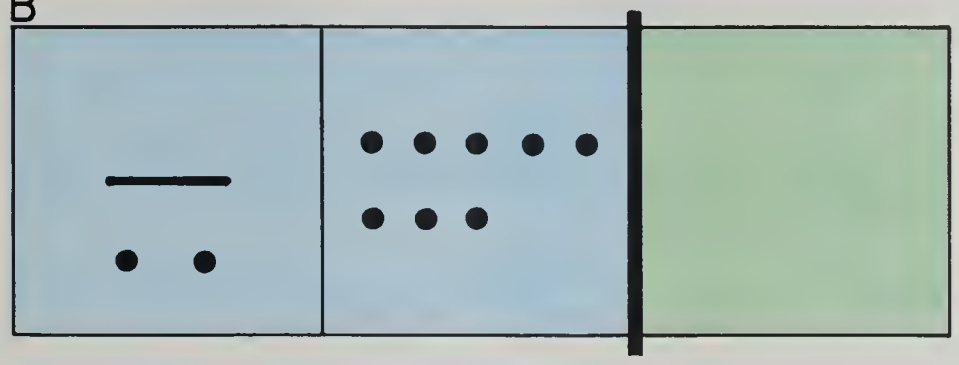
Follow Rule (a) and Rule (b) from previous page.

— or | stands for 10 objects and • stands for 1 object.

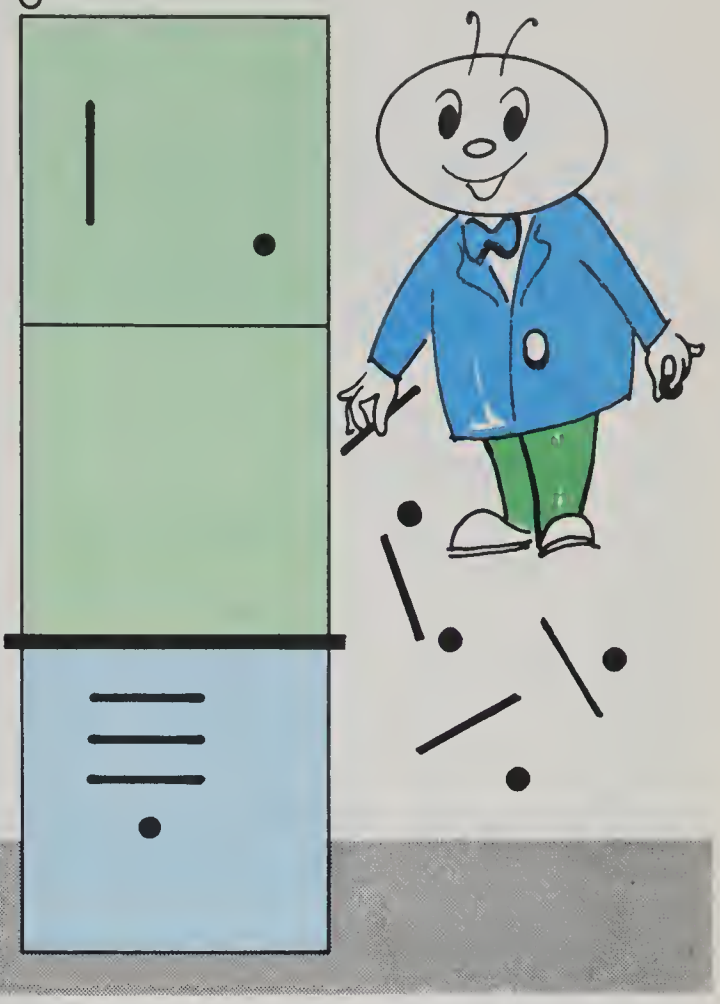
A



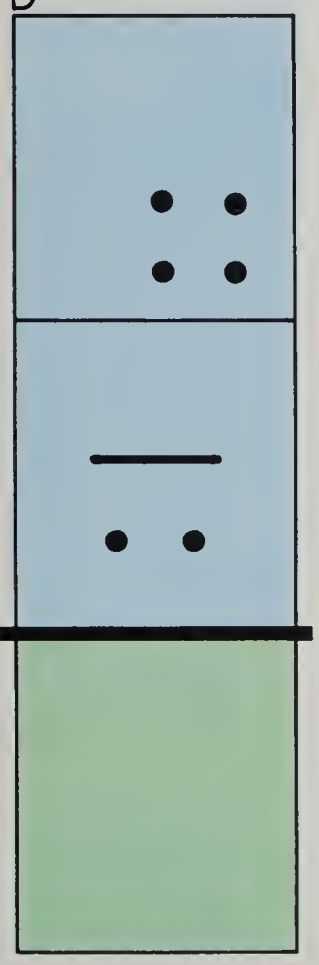
B



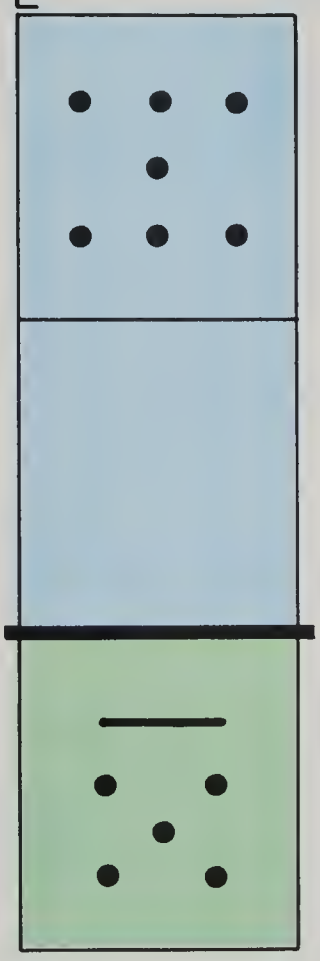
C



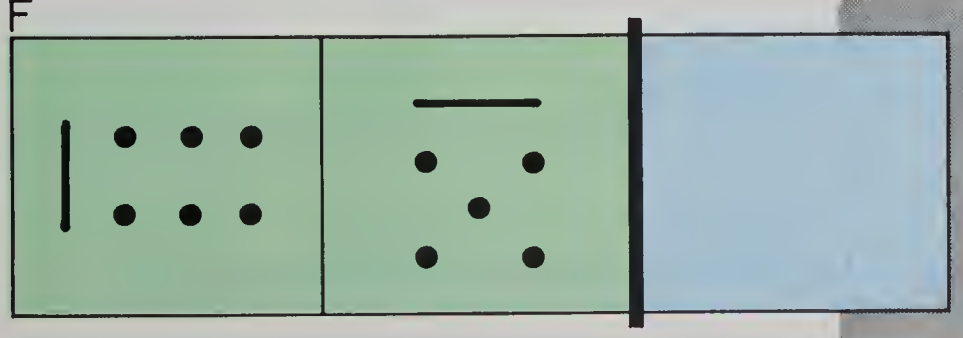
D



E

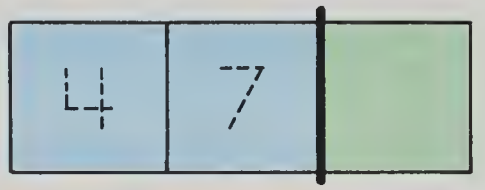


F

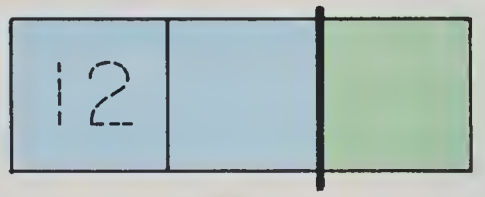


Record above results.

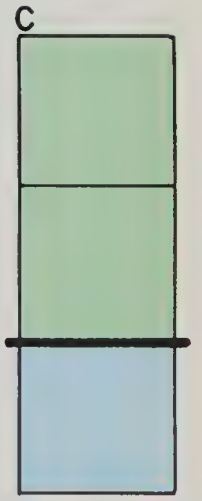
a



b



c



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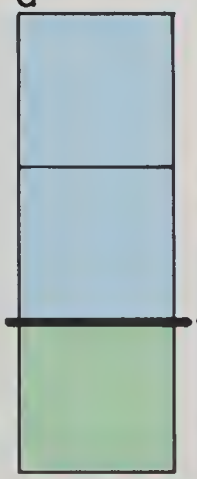
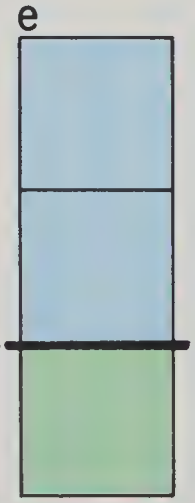


e



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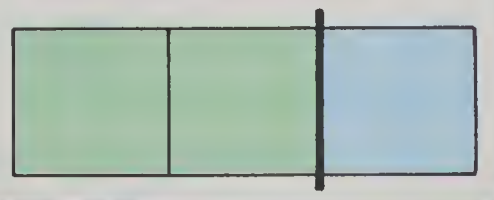


PRICE LIST

Erasers	3 ¢ each
Pencils	4 ¢ each
Pens	5 ¢ each
Tablets	10 ¢ each
Bottle of Ink	11 ¢ each
Rulers	12 ¢ each
Box of Crayons	15 ¢ each
Scissors	25 ¢ each
Set of Paints	28 ¢ each

Bill spent 15¢.

What did he buy?

We don't know for sure.
But we know he could have bought:

a. ▢ box of crayons

b. ▢ tablet and ▢ pen

c. ▢ pens

d. ▢ erasers

e. ▢ ruler and | eraser

f. | eraser and ▢ pencils

Mary spent 50¢. What did she buy?

We don't know, but she could have bought:

g. ▢ tablets

h. ▢ pens

i. ▢ scissors

j. 1 scissors and ▢ pens

k. ▢ pens and 3 tablets

l. ▢ bottles of ink and 2 erasers

m. ▢ paint set and ▢ bottles of ink

n. ▢ erasers and ▢ tablets

o. ▢ boxes of crayons and ▢ tablets

p. ▢ tablets and 2 pens

q. ▢ boxes of crayons and 1 pen

r. ▢ tablets and ▢ boxes of crayons

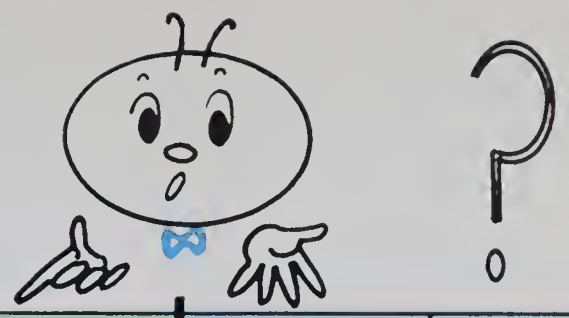
s. 5 pencils and ▢ pens

t. ▢ tablets and ▢ rulers

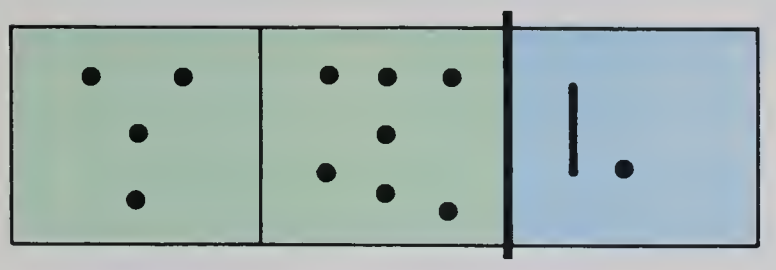
On this page: □ stands for 100 objects

— or | stands for 10 objects

• stands for 1 object



A



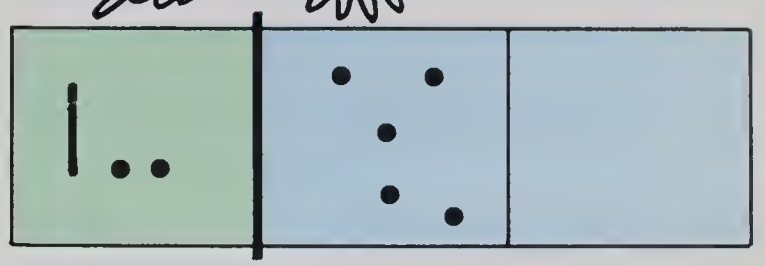
4 + 7 = ___

7 + ___ = 11

11 − 4 = ___

11 − ___ = 4

B



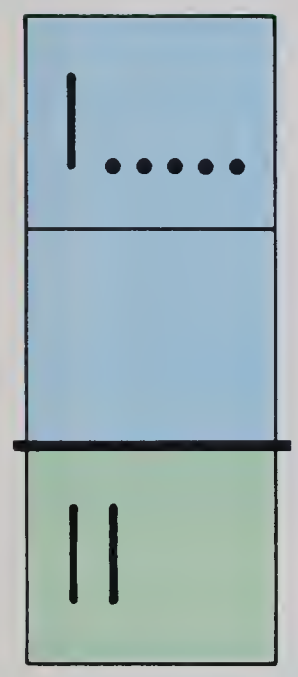
12 = 5 + ___

___ = ___ + ___

___ = ___ − ___

___ = ___ − ___

C



15 ___

+ ___ + ___

20 ___

___ ___

− ___ − ___

___ ___

D

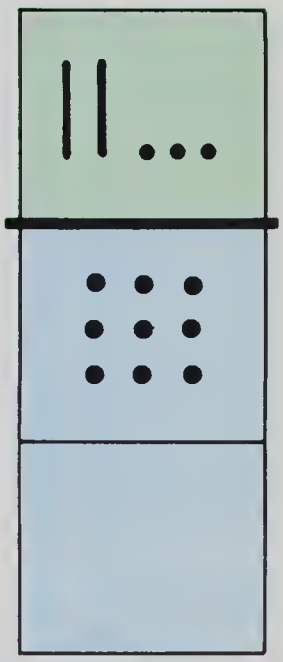
23 ___

− 9 − ___

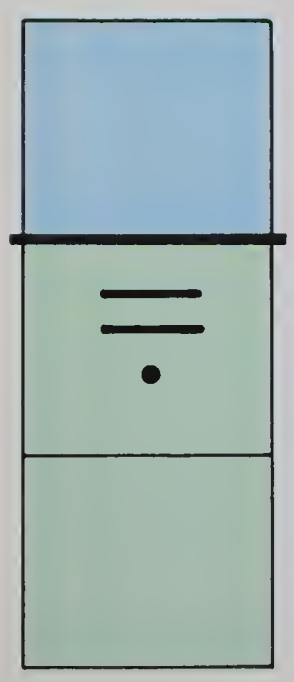
___ ___

+ ___ + ___

___ ___



E



31 ___

− 21 − ___

___ ___

+ ___ + ___

___ ___

F

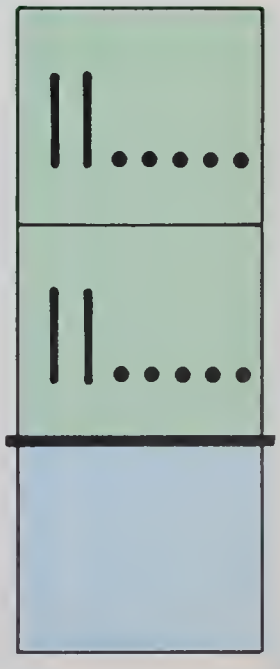
___ ___

+ ___ + ___

___ ___

− ___ − ___

___ ___

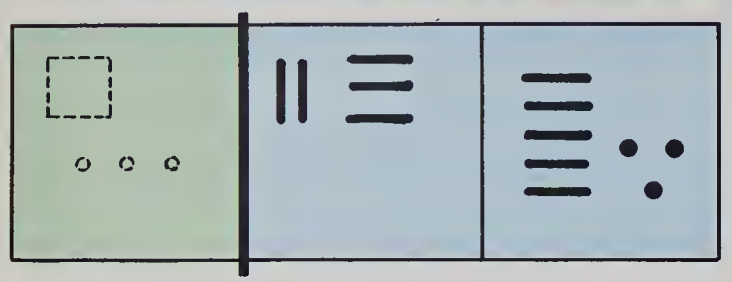


Rules:

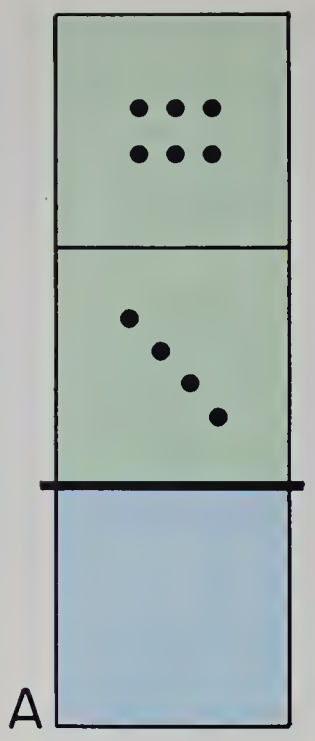
(a) In any row or column of 3 boxes, the same number of objects must be shown on each side of the heavy line.

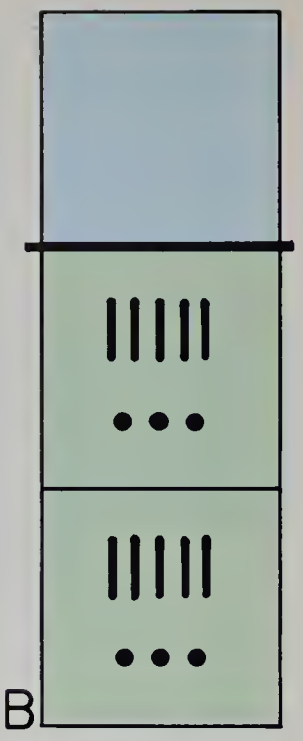
(b) No more than 9 of the same kind of shorthand mark can be in any one box.

(c) □ stands for 100 objects
— or | stands for 10 objects
• stands for 1 object



Practice





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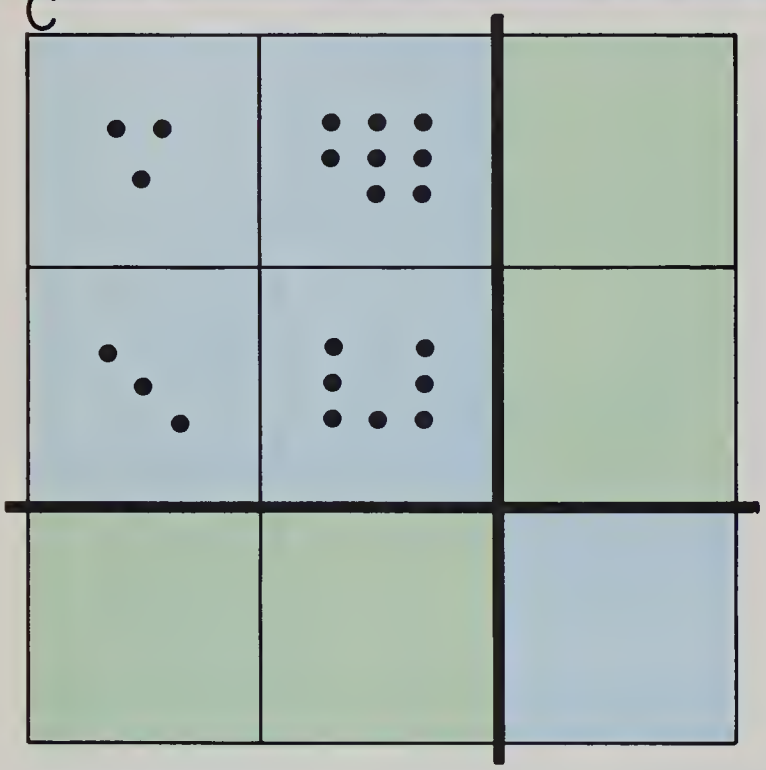
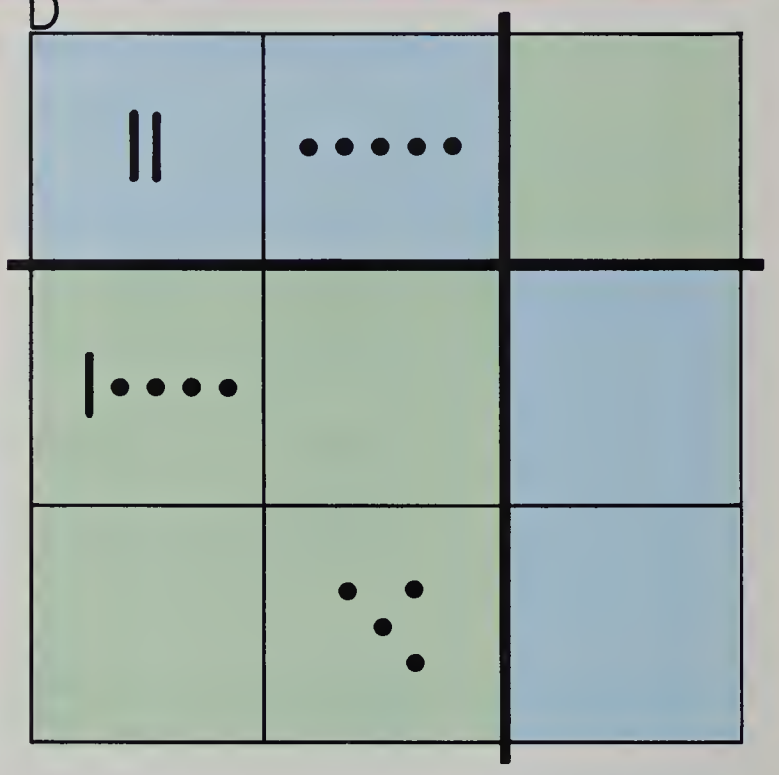


D



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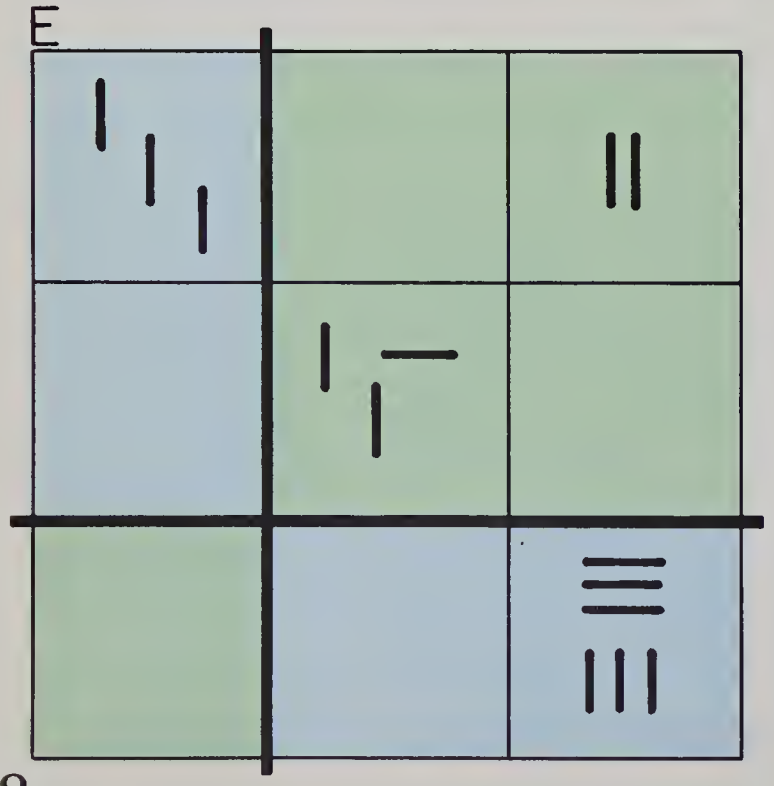

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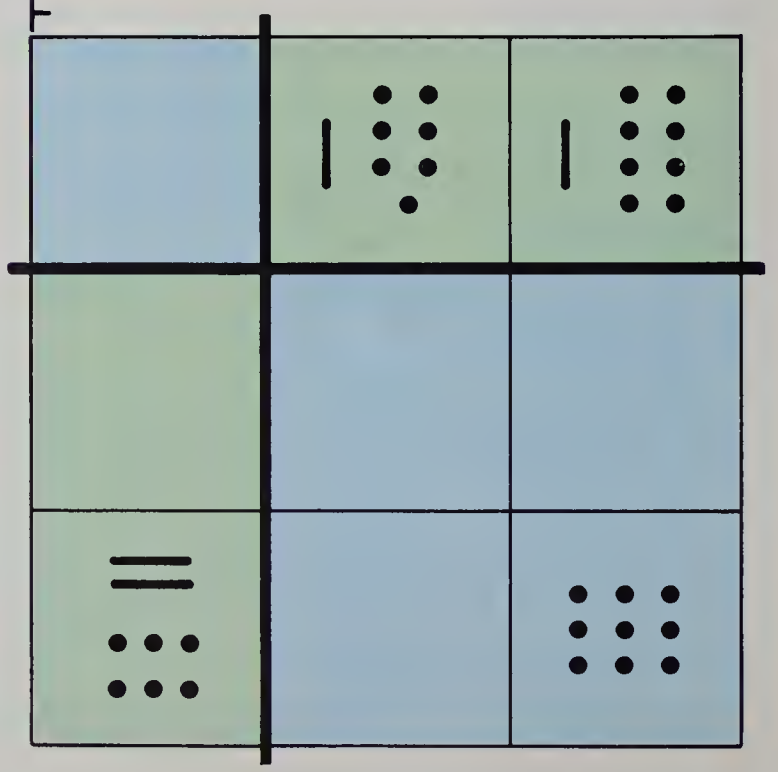


Rules:

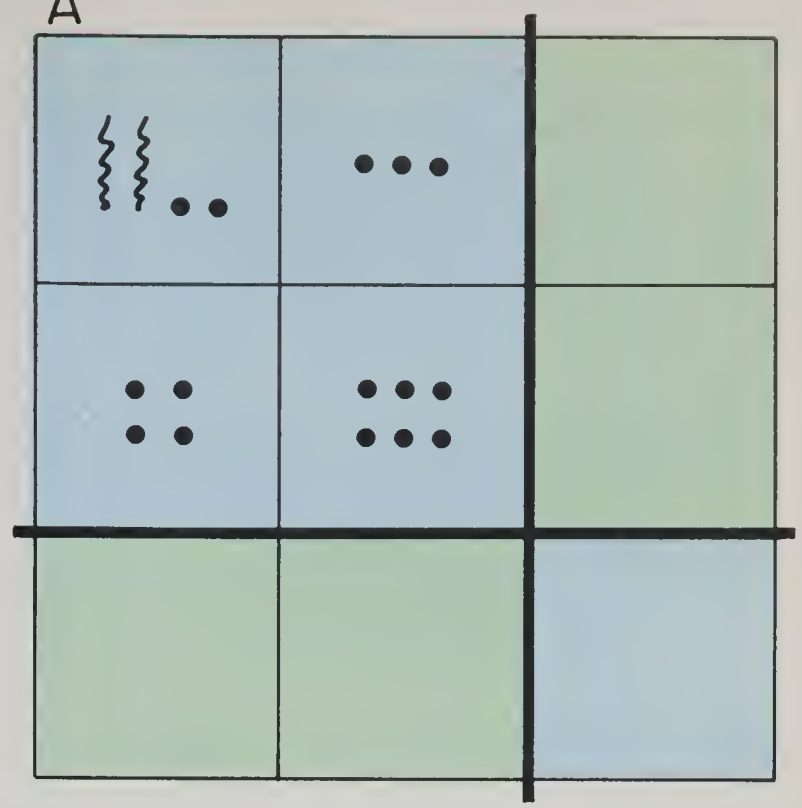
(1) In any row or column of 3 boxes, the same number of objects must be shown on each side of the heavy line.

(2) No more than 4 of the same kind of shorthand mark can be in any one box.

(3) For this page:

- ▭ stands for 25 objects
- ≀ stands for 5 objects
- • stands for 1 object

A



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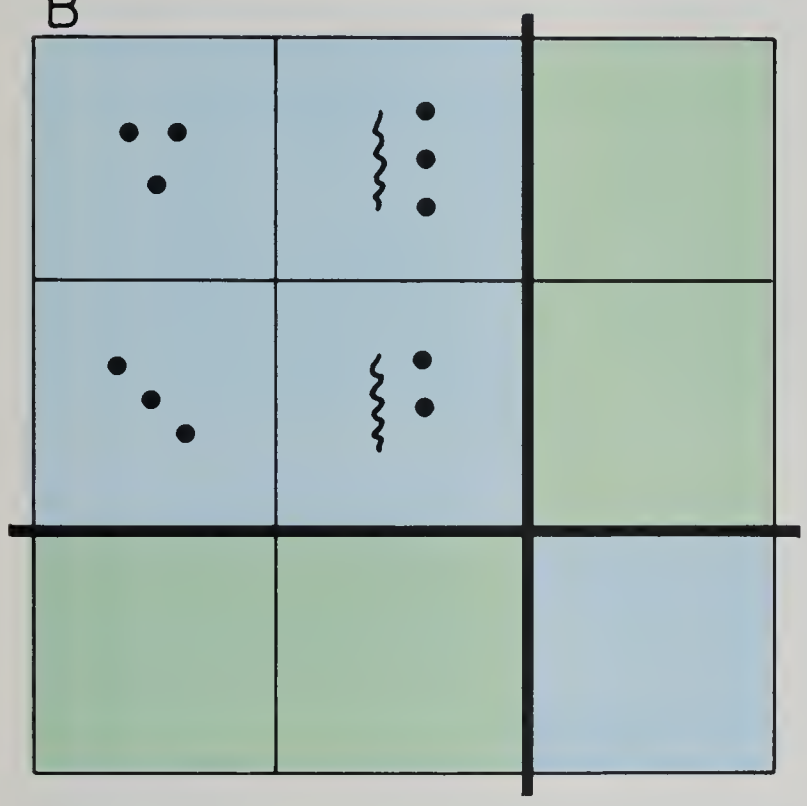

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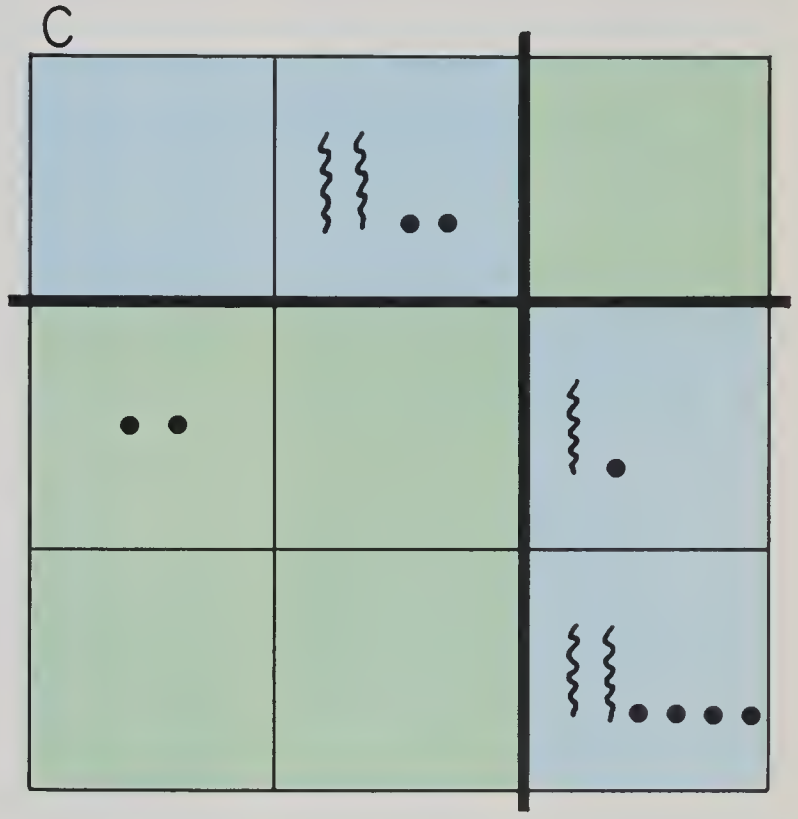

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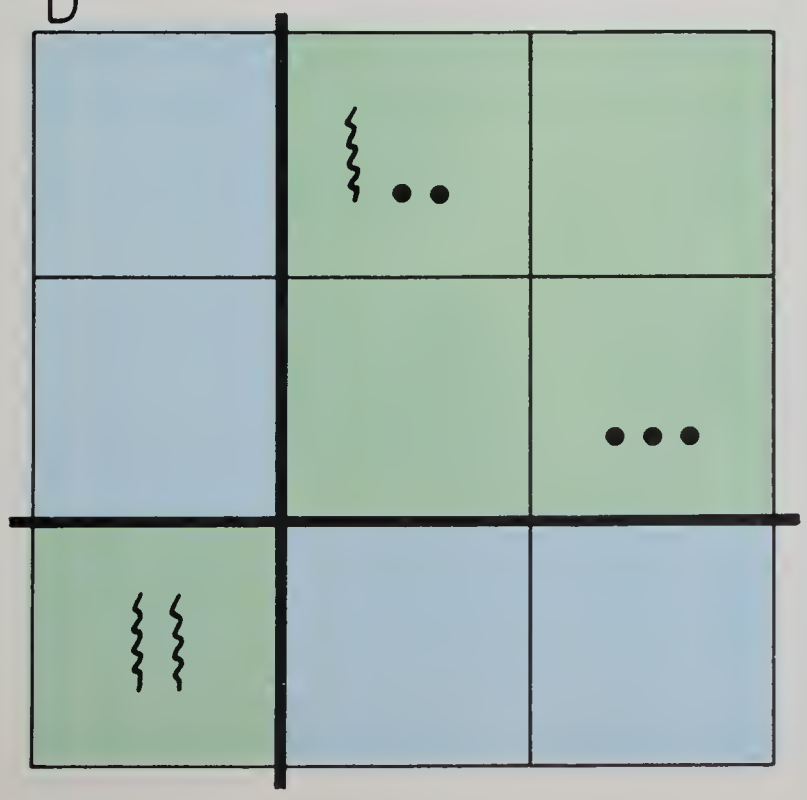
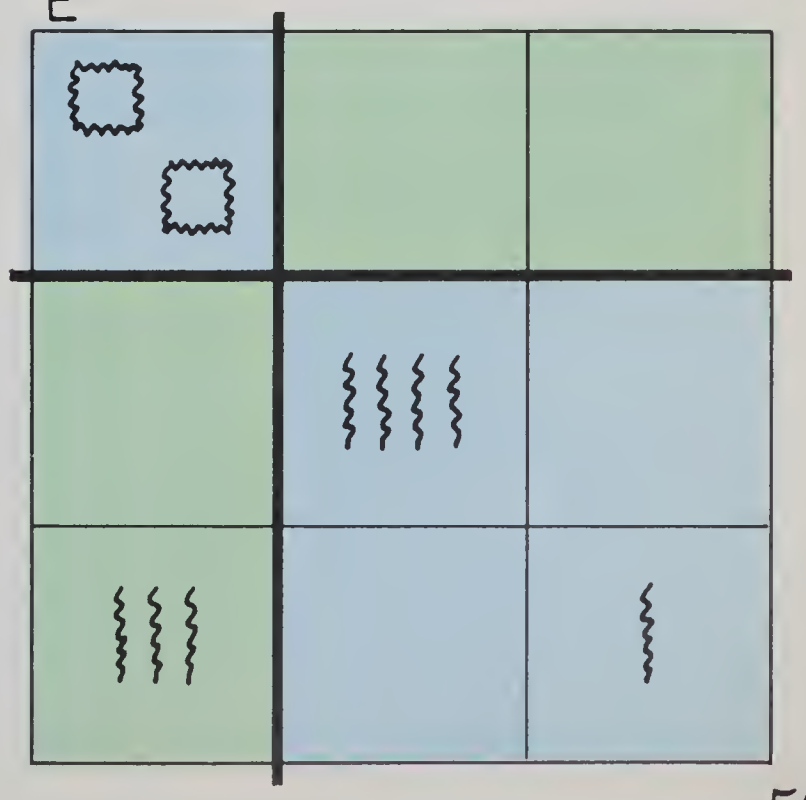


E



A

36

B

241

C

D

104

E

140

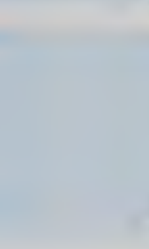
F

G

24

+

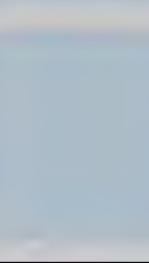
H



35

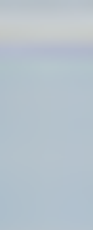
+

I



+

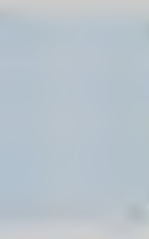
J



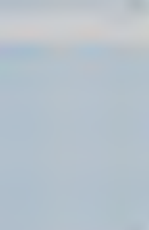
+

100

K



108



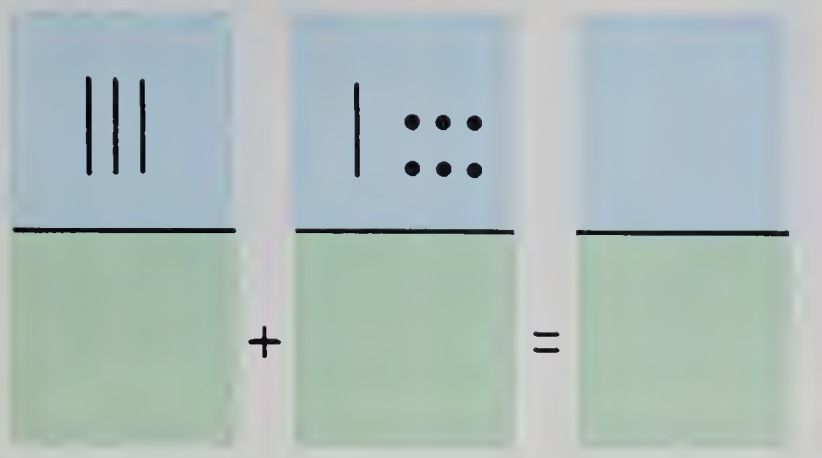
12

+

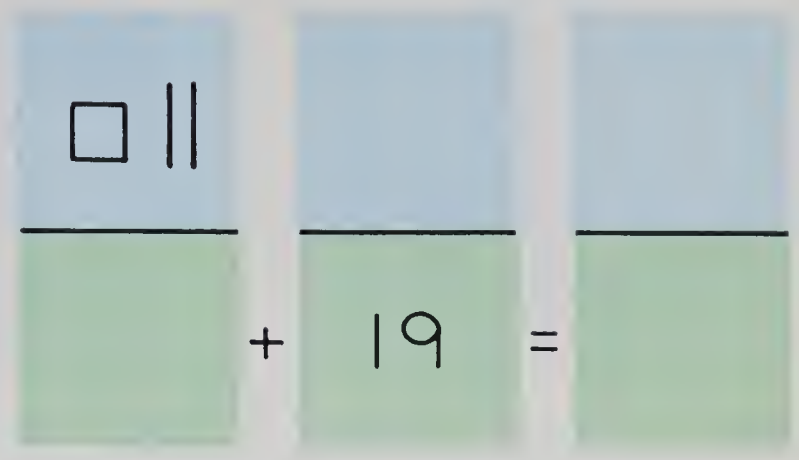
L

+

A



B



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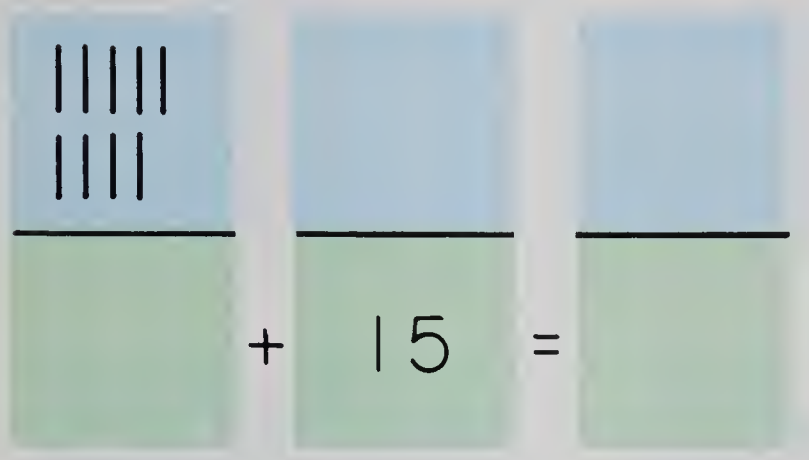

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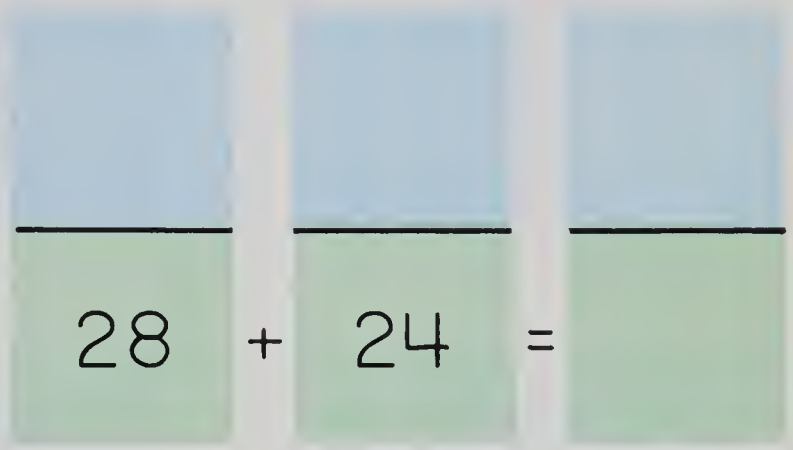

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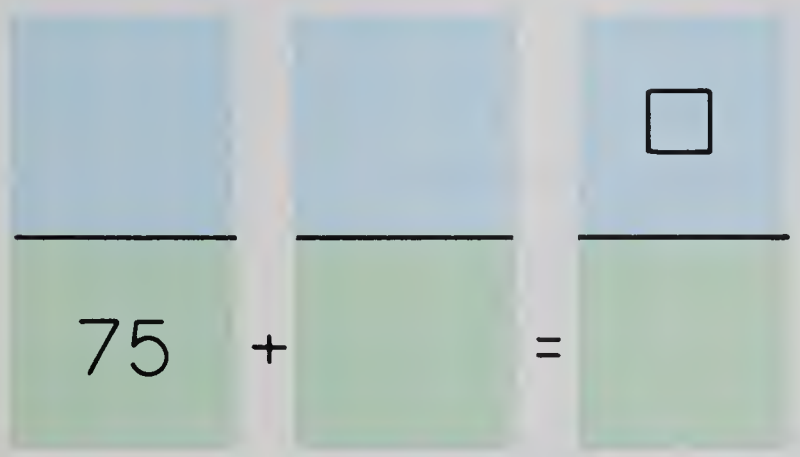
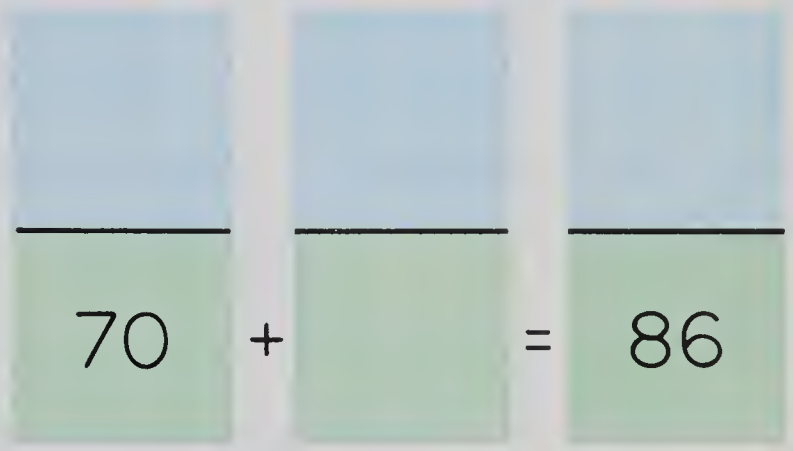
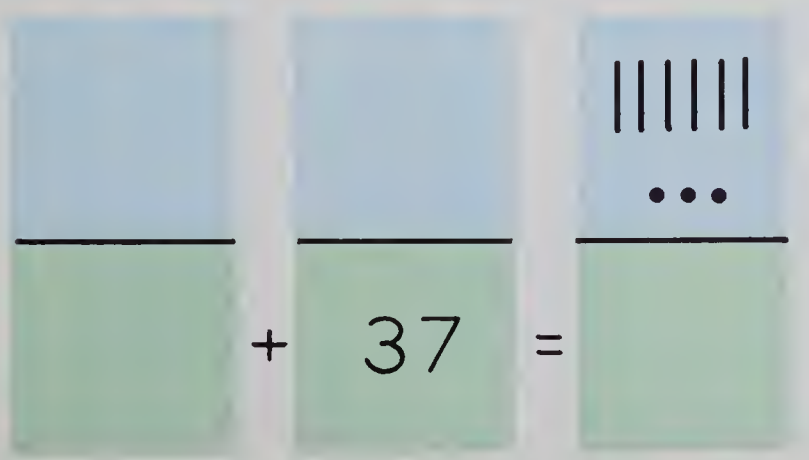


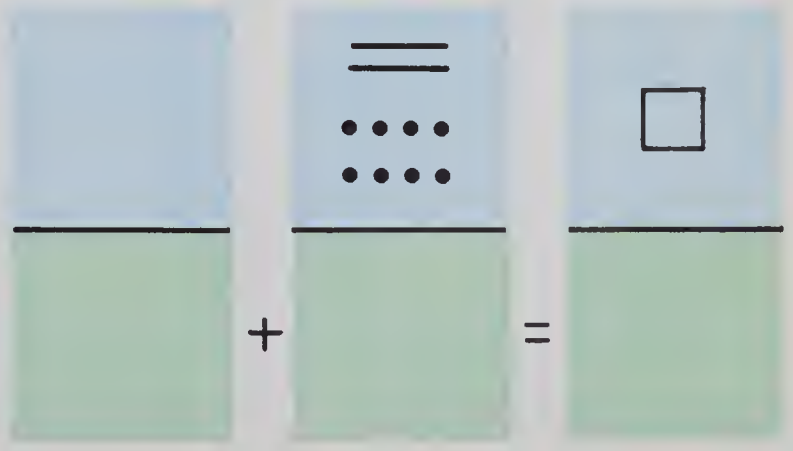
F



G



H



A.

5	4	9
6	1	7
11	5	16

B.

6		9
4		7

C.

	5	9
2		7

D.

9	5	
25	12	

E.

9		0
25	10	

F.

9		9
25		5

G.

30		15
13	4	
	11	

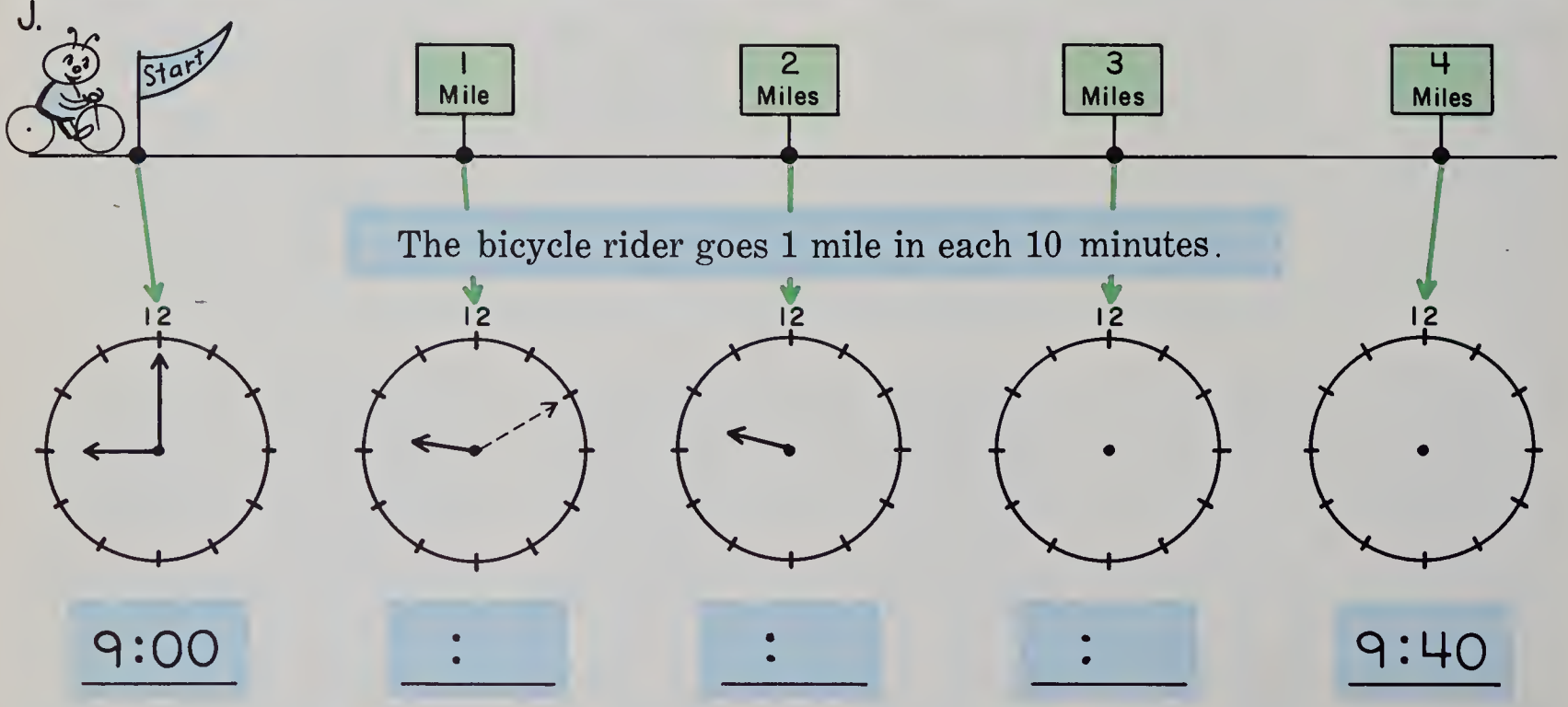
H.

30	16	
13	6	

I.

30		10
13		3

J.



How far would he go in one hour? ____ mi; In $1\frac{1}{2}$ hours? ____ mi; In 2 hours? ____ mi.

Green boxes are used only for 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, or 100.
Blue boxes are used only for 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9.

A

10		17
		12

B

14		
26		

C

		23
		18

D

		25
		17
	8	

E

30		
12		

F

		37
		29

G

		37
		25

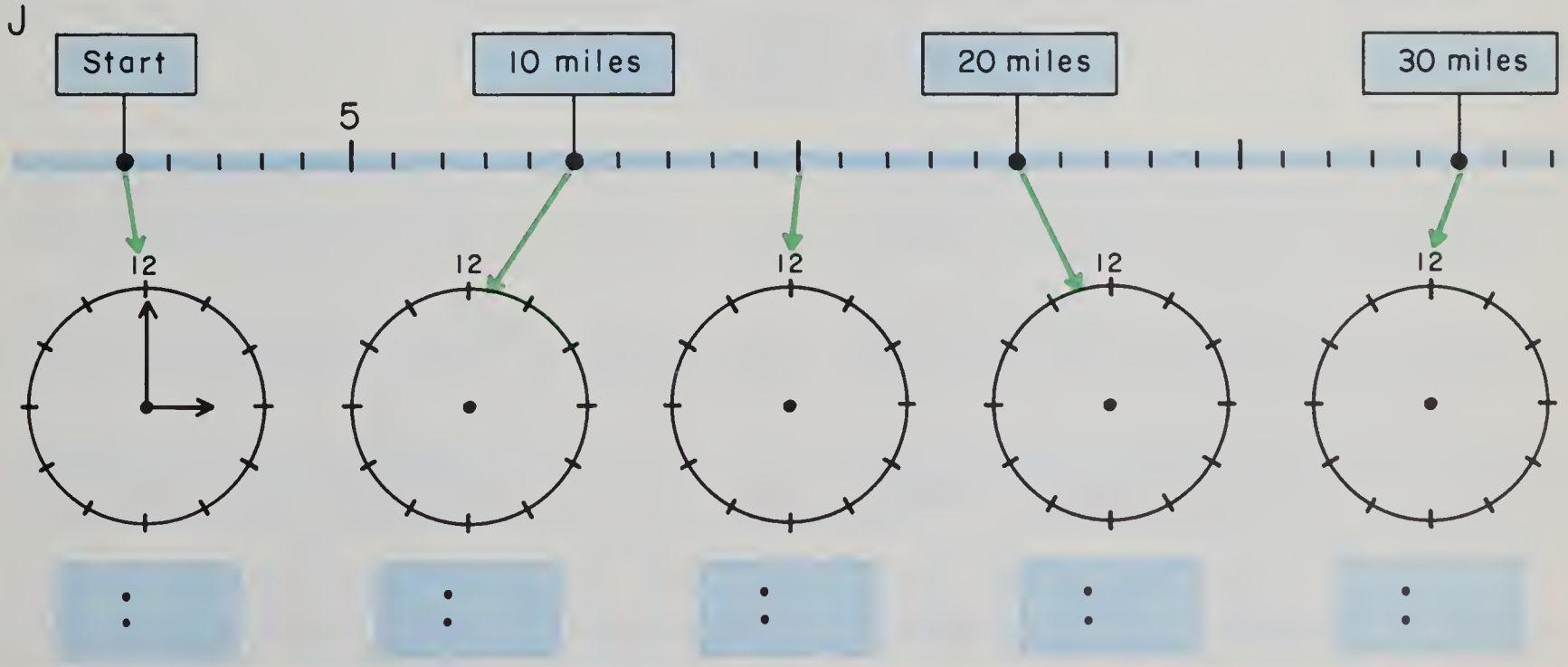
H

50		
26		

I

45		
27		

J



A truck driver started at 3 o'clock and drove at a steady rate. An hour later he had gone 20 miles. What time would he reach each of the points marked above?

Blue boxes are used only for numbers less than 10.

(a)

	8	16
	2	25

(b)

	9	16
	5	25

(c)

	6	16
	5	25

(d)

	17	34
	8	19

(e)

	14	34
	9	19

(f)

	5	45
	5	35

(g)

17		
26		

(h)

15		
32		

(i)

65		
25		

Twice as much . . .

(j) 7 in. → 1 ft. and 2 in.

(k) 5 da. → ____ wk. and ____ da.

(l) 10 oz. → ____ lb. and ____ oz.

(m) 10 in. → ____ ft. and ____ in.

(n) ____ da. → 1 wk. and 5 da.

(o) ____ oz. → 1 lb. and 2 oz.

(p) 4 da. → ____ wk. and ____ da.

(q) ____ in. → 1 ft. and 10 in.

(r) 7 oz. → ____ lb. and ____ oz.

(s) 6 in. → ____ ft. and ____ in.

Find the number for the green box the easiest way you can.

(a)

		13
		29

(b)

26		
26		

(c)

31		
18		

(d)

		50
		14

(e)

		37
		53

(f)

34		
55		

(g)

63		
36		

(h)

		87
		56

(i)

		29
		58

The same as . . .

(j) 15 in. → ____ ft. and ____ in.

(k) 70 min. → ____ hr. and ____ min.

(l) 30 hrs. → ____ da. and ____ hrs.

(m) 23 oz. → ____ lb. and ____ oz.

(n) 30 in. → ____ ft. and ____ in.

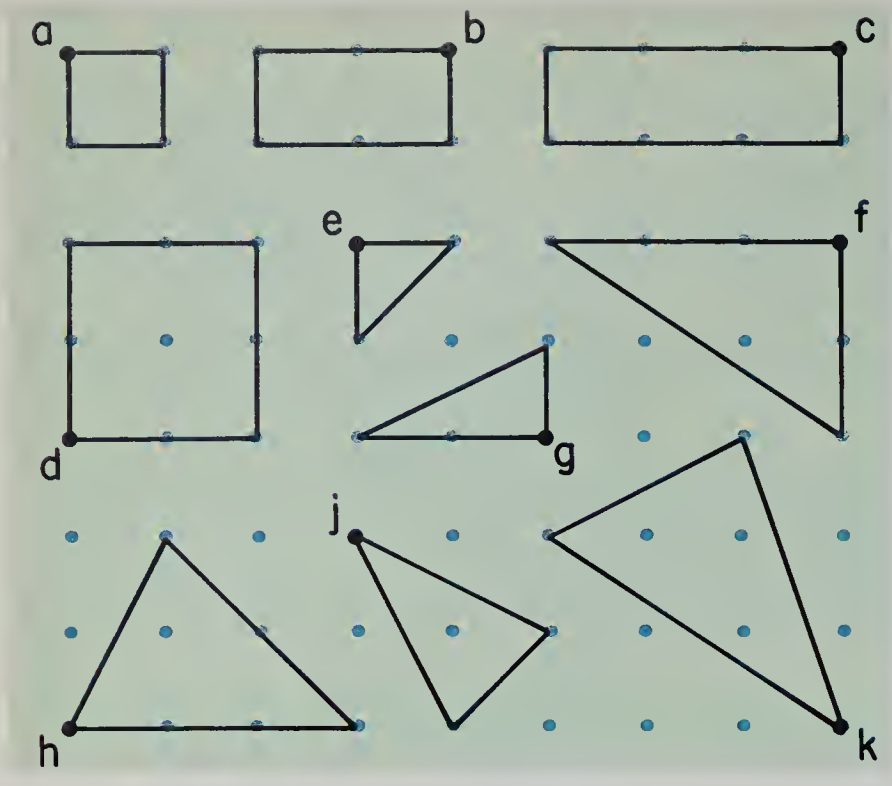
(o) ____ min. → $\frac{1}{2}$ hr. and 12 min.

(p) 35 oz. → ____ lb. and ____ oz.

(q) 35 in. → ____ ft. and ____ in.

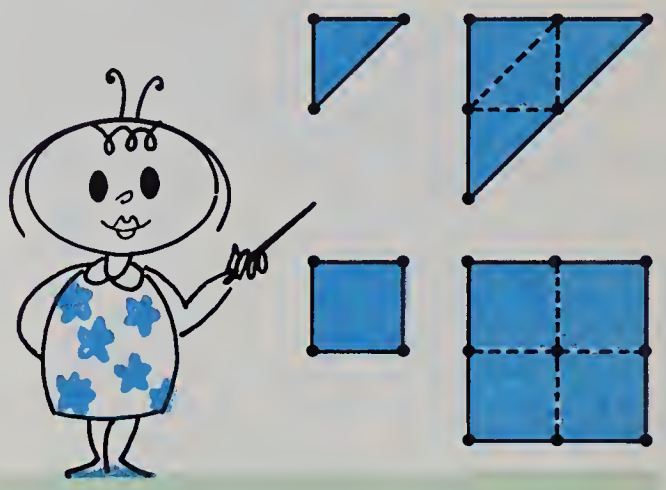
(r) ____ hrs. → 2 da. and 0 hrs.

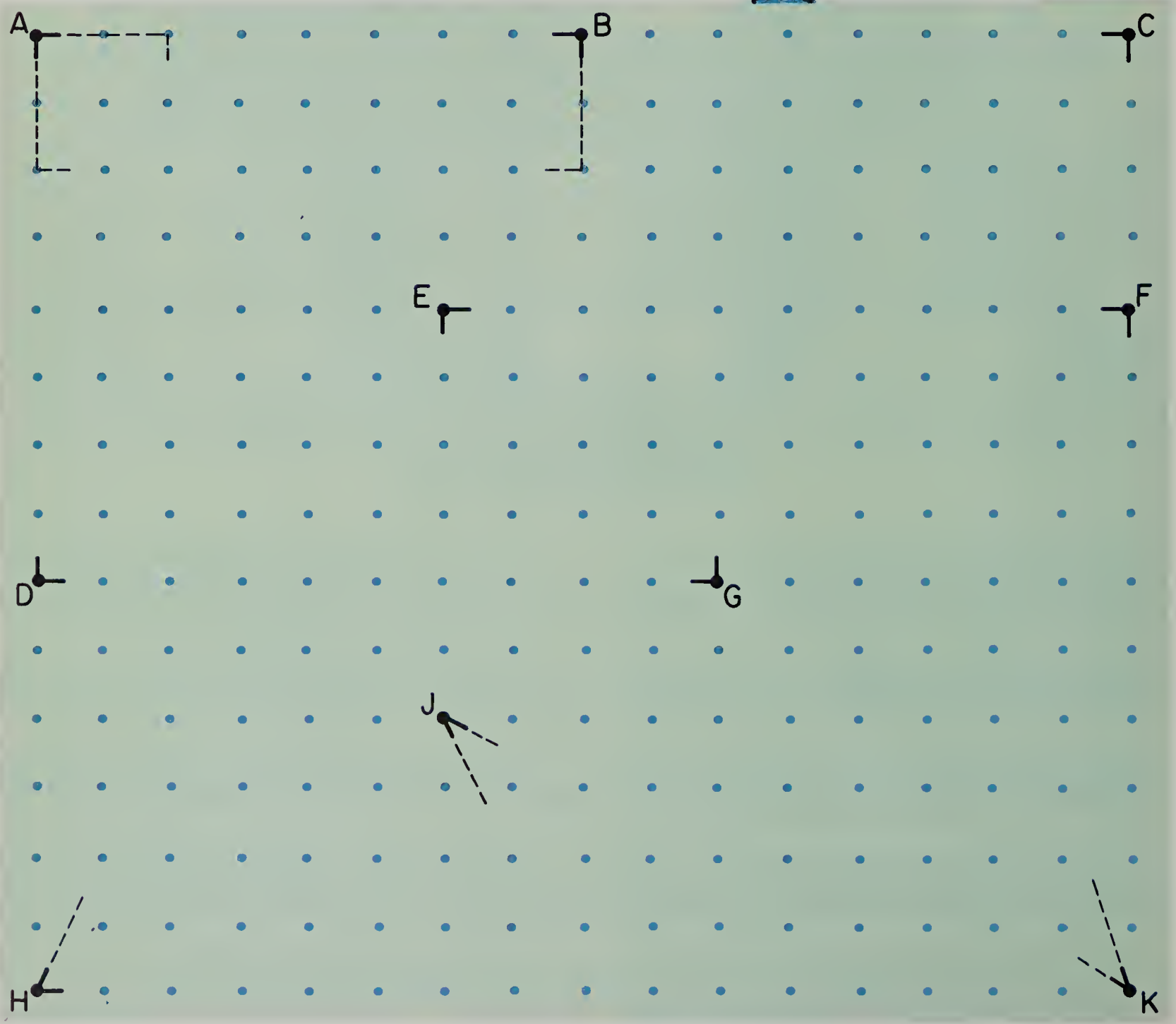
(s) ____ min. → $1\frac{1}{2}$ hrs. and 0 min.



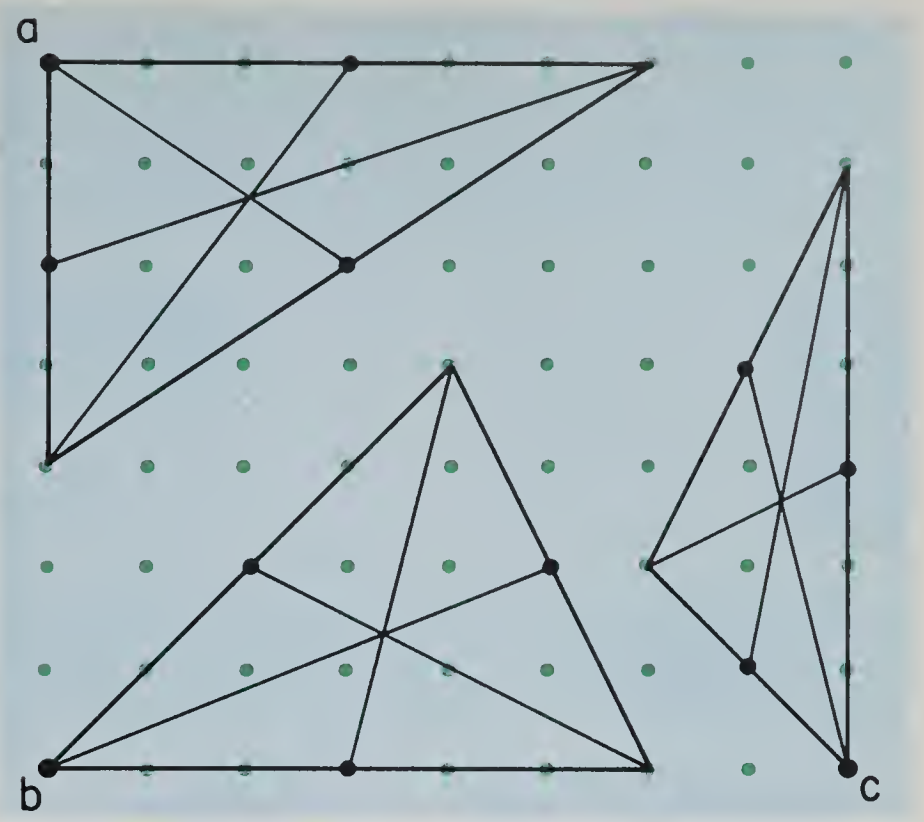
In the large box below, copy the shapes on the left so the lines in your drawings are twice as long as those in the smaller box.

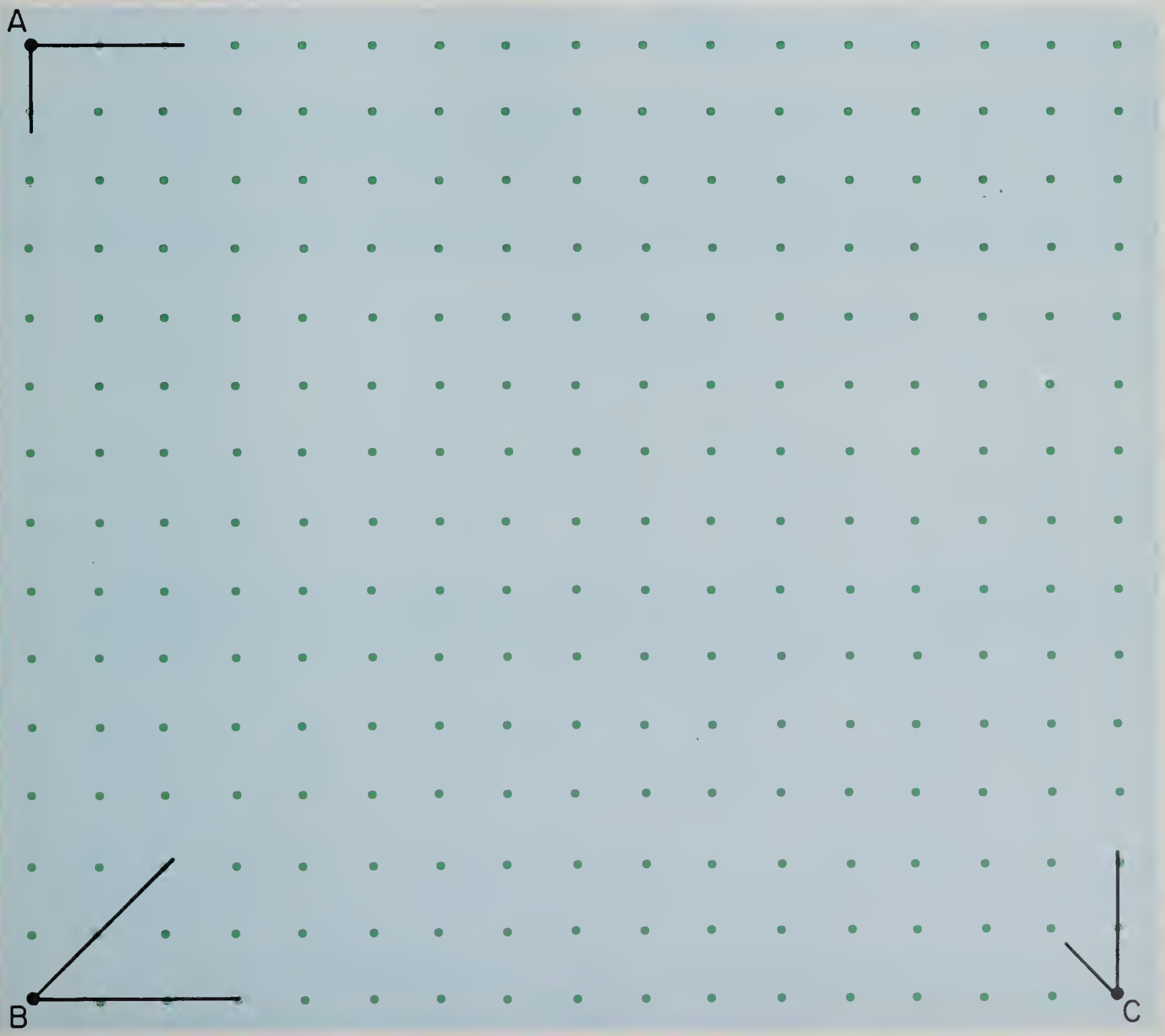
How many of the smaller shapes on the left will fit into the similar shapes you drew below?





In the large box below, copy the drawings on the right so that the lines in your drawings are twice as long as those in the smaller box.





Correct answer → C

Answer that is furthest from correct answer → D

Difference between these answers → ____

A B C D

A

$$\begin{array}{r} 3 \\ +\,7 \\ \hline \end{array}$$

(A) 4
(B) 9
(C) 10
(D) 21

A B C D ____

B

9 + 7 = ____

(A) 26
(C) 2
(B) 16
(D) 18

A B C D ____

C

$$\begin{array}{r} 12 \\ -\,4 \\ \hline \end{array}$$

(A) 13
(B) 16
(C) 2
(D) 8

A B C D ____

D

30 − 10 =

(A) 20
(C) 31
(B) 40
(D) 45

A B C D ____

E

$$\begin{array}{r} 14 \\ +\,6 \\ \hline \end{array}$$

(A) 24
(B) 20
(C) 8
(D) 30

A B C D ____

F

25 + 7 =

(A) 22
(C) 42
(B) 18
(D) 32

A B C D ____

TOY SALE: Drums 12¢ each Horns 35¢ each Boats 25¢ each

G

How much did Al pay for a boat and a drum?

(A) 35¢
(C) 27¢
(B) 37¢
(D) 40¢

A B C D ____¢

H

Helen bought a horn and gave the clerk 50¢. How much change did Helen get?

(A) 15¢
(C) 38¢
(B) 25¢
(D) 40¢

A B C D ____¢

I

How much did Jack pay for two drums?

(A) 25¢
(C) 24¢
(B) 35¢
(D) 30¢

A B C D ____¢

J

Mary bought a drum.
Tom bought a boat.
How much more did Tom spend than Mary?

(A) 13¢
(C) 9¢
(B) 23¢
(D) 29¢

A B C D ____¢

K

Harry bought two boats and gave the clerk a dollar. How much change did he get?

(A) 35¢
(C) 50¢
(B) 30¢
(D) 60¢

A B C D ____¢

L

Sarah bought a drum, a horn, and a boat. How much did she spend?

(A) 62¢
(C) $1.00
(B) 47¢
(D) 72¢

A B C D ____¢

In each problem, write the given numbers in figures. Then label the largest by writing an A in the colored box next to it; the next largest by a B; the next by a C; etc.

1

fifty-seven ..... 57 B

ninety-one ..... 91 A

2

one hundred ..... _____ A

eighty-seven ..... _____ B

3

one hundred eighty ... _____

one hundred twenty-five _____

three hundred ..... _____ A

4

three hundred twenty .. _____ B

two hundred eighteen _____

one thousand ..... _____

5

ten more than nine .... _____

thirty-six ..... _____

half of fifty ..... _____

two dozen ..... _____

6

twice fifty ..... _____

seven hundred ..... _____

eighty plus thirty ..... _____

eight hundred seven ... _____

7

three hundred forty-one.. _____

three hundred forty ..... _____

two hundred fifty-nine.. _____

two hundred sixty..... _____

8

ten more than four hundred eleven .... _____

ten less than four hundred twenty ... _____

9

half of sixty ..... _____

three dozen ..... _____

twice eleven ..... _____

four sevens ..... _____

thirty-one ..... _____

ten twos ..... _____

two dozen ..... _____

10

four hundred eighty .. _____

three thousand four hundred ..... _____

seven hundred more than one thousand ... _____

ten thousand ..... _____

nine hundred ..... _____

A

	3	23
	9	49

B

	7	
		35
50		62

C

60
12

D

50
62

E

20		21
		45
	3	13
70	9	

F

	2	22
40		46
	4	14

G

12
13
25

H

24
6
13

I

	0	30
0		9
	8	18
40		

J

10		18
	8	18
		18
	24	

K

25
5
40

L

15
15
15

M

10		16
20		23
30		34
20		27

N

10	5	
	4	4
		28
50		
80		97

O

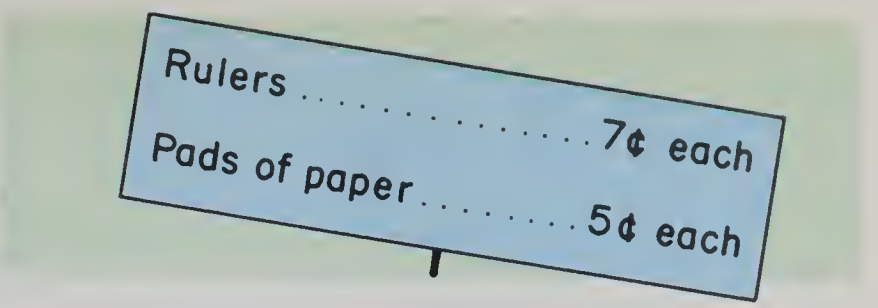
14
27
18
33

P

10
20
30
40

A Lot About 25¢

Bill had a quarter. He saw a sign which said that rulers cost 7¢ each and pads of paper cost 5¢ each.



1. If he bought as many pads as he could, he would spend _____¢ and get _____¢ change.

2. If he bought as many rulers as he could, he would spend _____¢ and get _____¢ change.

3. If he bought one ruler and one pad of paper, he would spend _____¢ and get _____¢ change.

4. If he bought two rulers and two pads, he would spend _____¢ and get _____¢ change.

Each sentence below tells about a purchase Bill might have made. Fill in the blanks in each sentence.

5. 1 ruler(s) and 2 pad(s) would cost 17¢ leaving _____¢ change.

6. 2 ruler(s) and 1 pad(s) would cost _____¢ leaving _____¢ change.

7. 0 ruler(s) and _____ pad(s) would cost 15¢ leaving _____¢ change.

8. _____ ruler(s) and _____ pad(s) would cost 14¢ leaving _____¢ change.

9. 1 ruler(s) and _____ pad(s) would cost _____¢ leaving 3¢ change.

10. _____ ruler(s) and _____ pad(s) would cost _____¢ leaving 20¢ change.

11. _____ ruler(s) and _____ pad(s) would cost _____¢ leaving 18¢ change.

12. _____ ruler(s) and 4 pad(s) would cost _____¢ leaving _____¢ change.

13. _____ ruler(s) and _____ pad(s) would cost _____¢ leaving 15¢ change.

What's My Rule?

△	4	1	10	13	6	15		19	28		
△+7	11	8	17				30			44	100

A.

15	10 + 5	8 + 7	5 + 10	+ 6	− 5
+ 18	10 +	12 + 6	5 + 13	+	20 − 2
___ =	20 + 13 =	+ =	+ =	+ 13 =	40 − 7

B.

34	9 +	+ 4	+	31 +	− 6
+ 9	4 +	+	3 + 6	+	10 −
___ =	+ 30 =	30 + =	+ 20 =	+ 3 =	50 − 7

C.

26	+ 1	+ 6	20 + 6	− 4	− 9
+ 26	+ 1	+ 4	+	30 −	− 9
___ =	+ 2 =	+ =	+ 12 =	− 8 =	− 18

D.

37	20 +	+ 7
+ 19	16 +	10 +
___ =	+ =	+

F.

14	7 +	4 +
+ 28	14 +	+ 20
___ =	+ =	+

E.

37	+ 30	15 +
+	+ 10	10 +
50 =	+ =	25 +

G.

	+ 4	−
+ 29	25 +	30 − 1
58 =	50 + 8 =	60 − 2

H. What Are My Rules?

a + 2	10	8	19	17	20	11		12		27	21
a	8	6	17	15	18		26				
b	2	3	5	10	6	8			18	25	
a + b	10	9	22			17	35	15	50		36

I

+	one ten	four ones	14
10	20	14	24
7	17		
15		19	
	30		
		32	
		4	

II

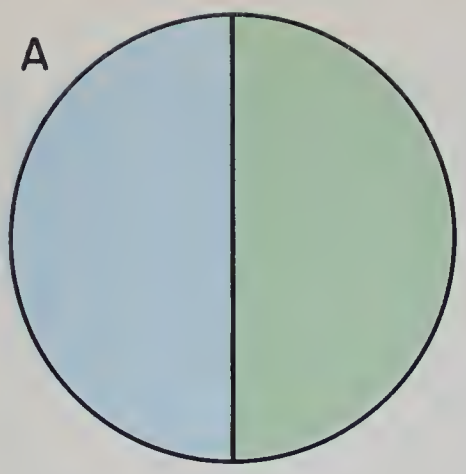
−	one ten	three ones	13
15	5	12	2
20	10		
27		24	
30			
		10	
31			

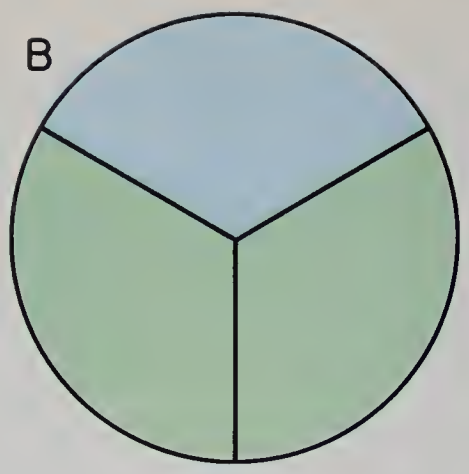
III

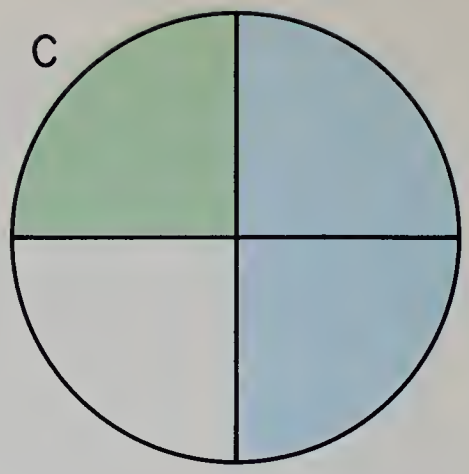
+	three ones	two tens	one hundred	123	three hundreds	305
100						
10						
	113					
		90				
			180			
					905	

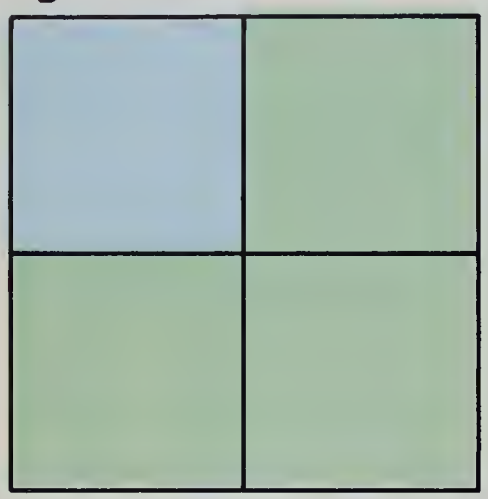
IV What's My Rule?

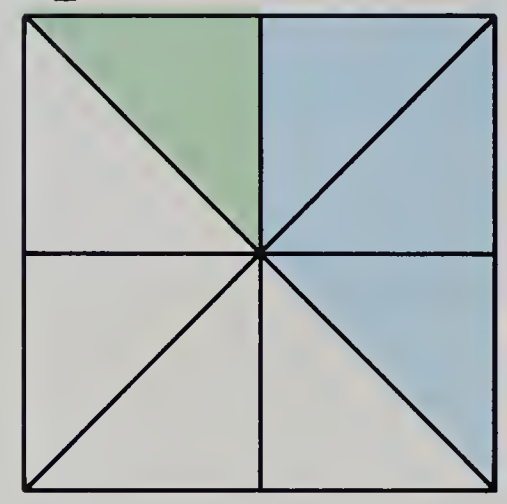
□	7	10	8	13	19			33	40		100
□−5	2	5	3			19	0			37	

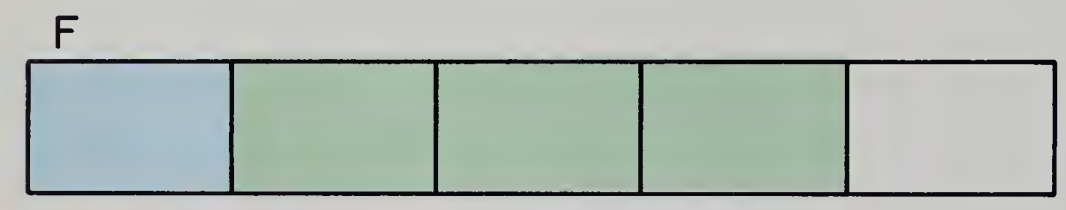


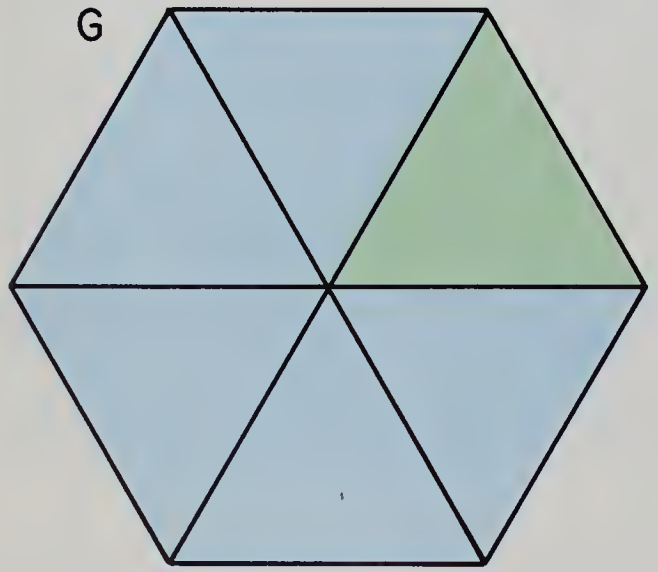


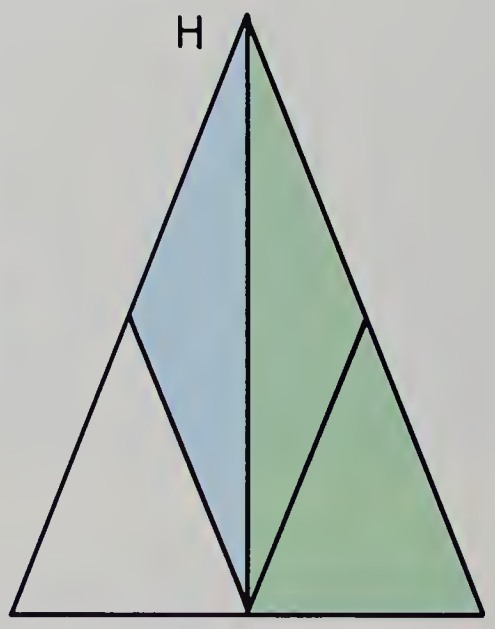












	Part shaded blue	Part shaded green
A	$\frac{1}{2}$	$\frac{1}{2}$
B		$\frac{2}{3}$
C		
D		
E		
F		
G		
H		
I		

A

10		4	19
	5		38
40			

B

46	40		
49	40	0	
			10

C

			46
	4	5	19
	2	5	

D

50	10		10
37	5		2

E

10		13
20		22
		15
	10	

F

24		
19	10	
8	0	
	30	

G

	9	9
	5	25
	8	18

H

62	40	
		6
	10	7
19		

What's My Rule?

△	△+△
4	8
11	22
5	
8	
13	
21	
33	
54	
100	
	600

I

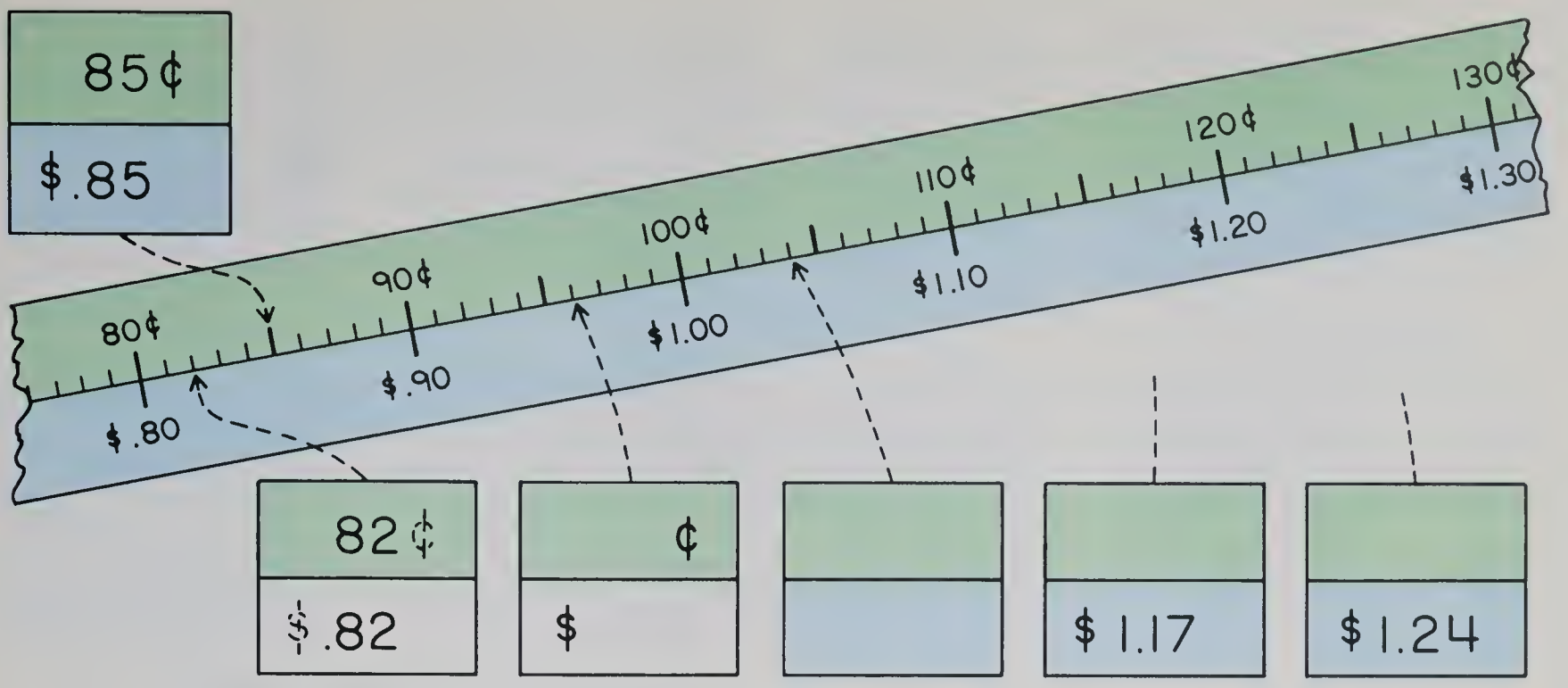
—	two ones	one ten	eleven ones	three ones	five ones	two tens	twenty-five ones	seven ones
25			14					
30	28							
40								
	53							
		23						
			31					

II

+	three ones	five ones	one ten	twenty-five ones	two tens	seven ones	twenty-seven ones	seventeen ones
8	11							
15								
0								
			35					
	60							
				125				

III What's My Rule?

5¢	7¢	3¢	10¢	25¢	9¢		18¢		
10¢	14¢	6¢				30¢		$1.00	$1.50



In each box below, write the sums in both ways as shown.

The way you should write the sums in the blue boxes below is the way we usually write an amount of money over one dollar.

Add	5¢	25¢	8¢	$1.00	84¢	
7¢	12¢ ----- $.12	32¢ ----- $.	-----	107¢ ----- $1.07	-----	-----
15¢	----- $.20	-----	-----	-----	-----	-----
	55¢ -----	-----	-----	-----	-----	-----
	-----	-----	-----	----- $2.16	-----	-----
	----- $3.25	----- $3.45	-----	-----	-----	----- $4.10

A.

33	25 + 8	+ 20	15 + 15 +	10 + + 3
− 15	10 + 5	+ 10	+ 5 + 3	4 + + 3
___ =	15 +	+ 10	8 + + 0	6 + 12 +

B.

42	+ 22	30 +	25 + 15 + 2	+ −
− 27	+ 22	+ 7	+ + 2	30 + 0 − 3
___ =	+ 0	+ 5	0 + + 0	10 + 5 − 0

C.

60	+ 31	10 +	20 + 25 +	35 + − 10
− 26	15 +	+ 20	10 + + 1	+ 1 − 10
___ =	+	+	+ 10 +	+ −

D.

21	+ 6	+	
− 12	10 +	2 + 10	
___ =	+	9 + 0	

F.

53	+ 40	+ 10	
− 35	+ 30	+ 5	
___ =	+ 10	+ 5	

E.

___	11 +	+ 16	
− 14	+ 10	10 +	
27 =	+ 20	+	

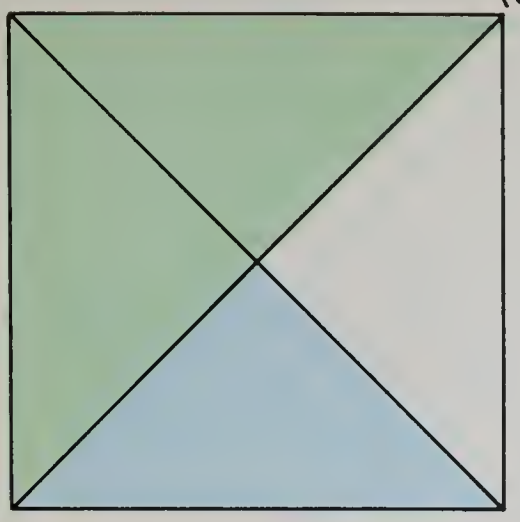
G.

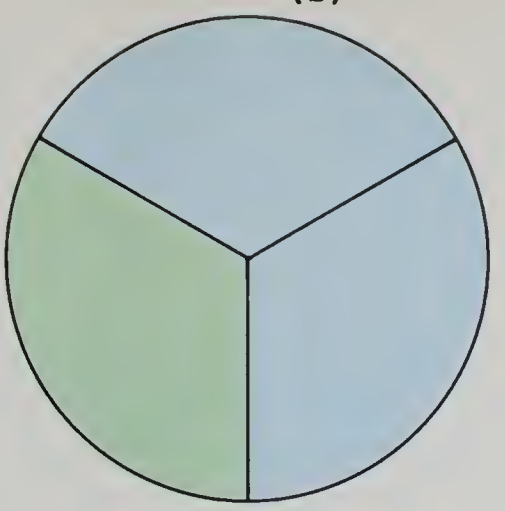
___	+ 32	− 8	
− 26	+ 6	− 4	
36 =	+	− 4	

H. What Are My Rules?

b − a	9		16		30		7	3		31	17
a	8	15	12	17			13		25		
b	17	21	28		55	43					
a + b	25	36		34		51		21	65	69	49

I.





	Part shaded green	Part shaded blue
(a)		
(b)		

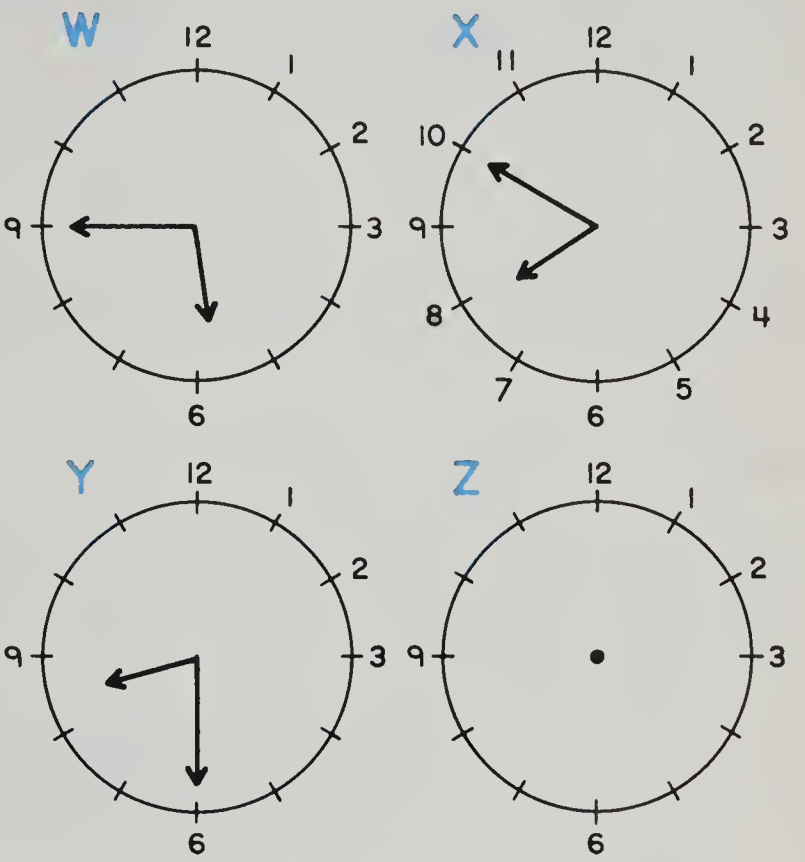
II. Add

+	one ten	six ones	16
4	14	10	
10			
30			
25			
19			

III. Subtract

—	one dime	one nickel	15¢
25¢	15¢	20¢	
50¢			
29¢			
43¢			
31¢			

IV.



Draw the hands in clock Z so that each of the sentences below can be made into a true statement.

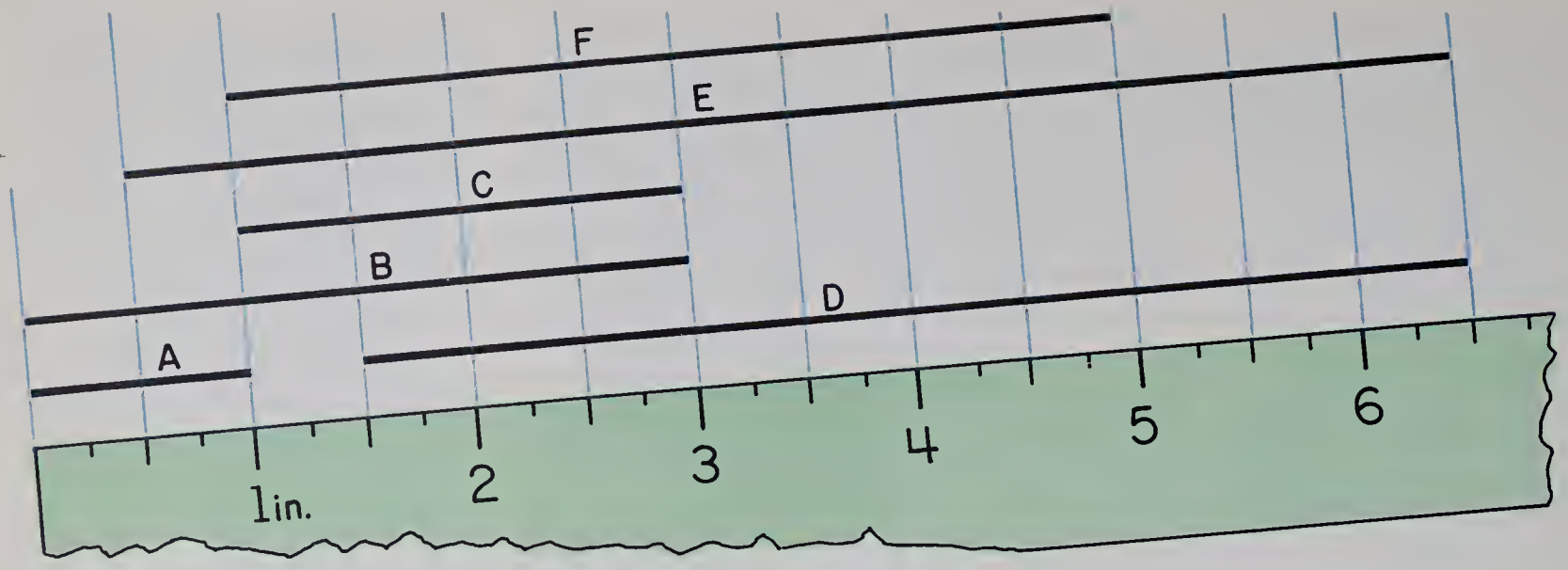
Clock _____ shows 5:45 o'clock.

Clock _____ shows fifty minutes after seven o'clock.

Clock _____ shows half past eight.

Clock _____ shows twenty minutes before six o'clock.

Clock _____ shows a quarter of six.



Lengths of lines:

A: 1 in. B: ____ in. C: ____ in.

D: 5 in. E: ____ in. F: ____ in.

Sums of lengths of lines:

A and D: ____ in. B and C: ____ in.

E and F: ____ in. D and F: ____ in.

A and F: ____ in. B and E: ____ in.

Differences between lengths of lines:

B and A: 2 in. F and C: ____ in.

E and C: ____ in. D and F: ____ in.

E and D: ____ in. E and F: ____ in.

A game called WATCH THE SIGNS!

I

12	−	9	=
+		+	+
30	−	10	=
=		=	=
	−		=

II

25	−		=
−		−	−
	−		= 2
=		=	=
15	−	7	=

III

30	−	4	=
−		+	−
7	+		=
=		=	=
	−		= 19

IV

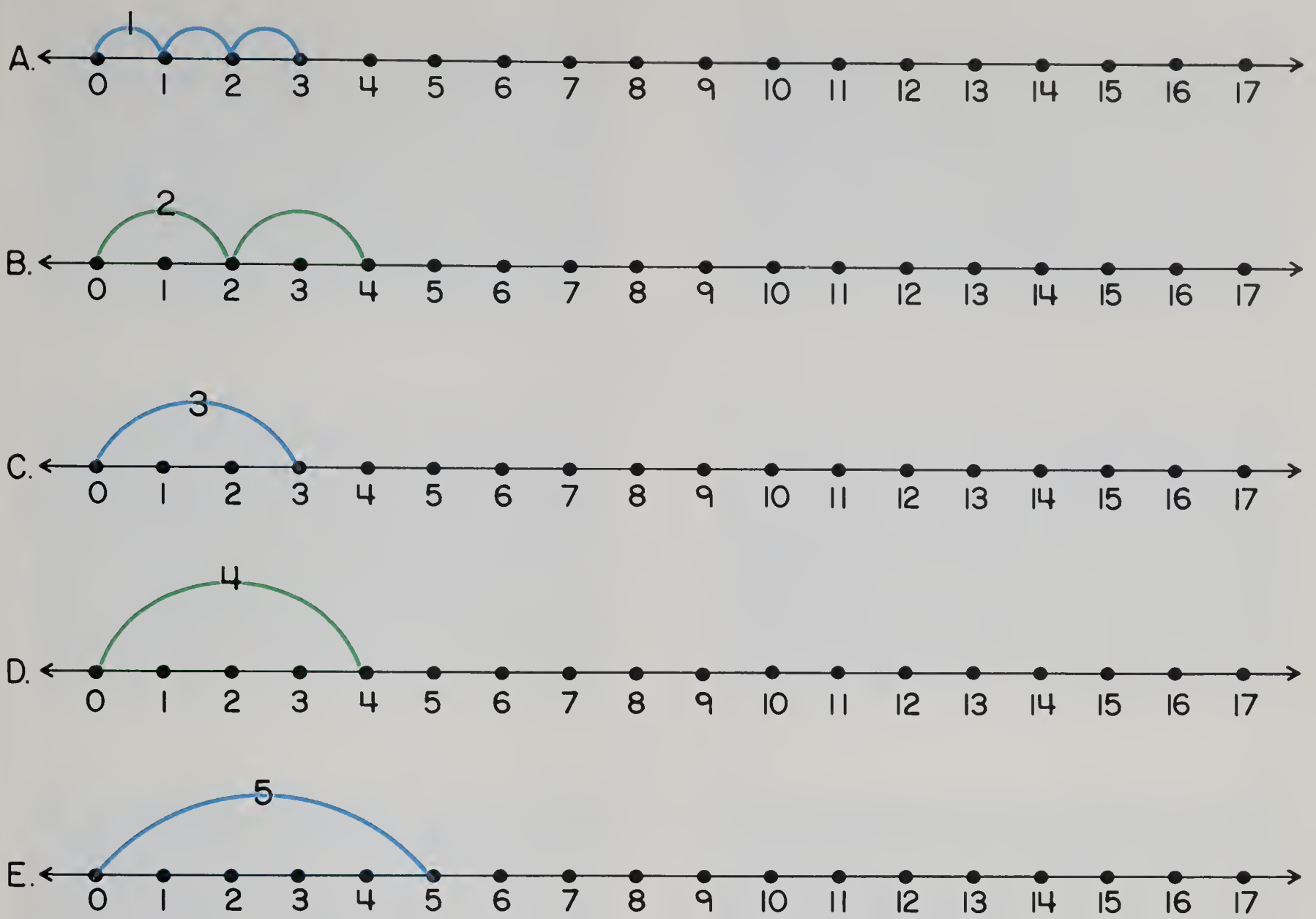
	+	16	= 26
−		−	−
	+		= 18
=		=	=
	+	8	=

V

14	+	6	=
+		−	+
16	−		= 12
=		=	=
	+		=

VI

36	−	8	=
−		−	−
	−		= 10
=		=	=
	−	3	=



	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th
A. 1	1	2	3							
B. 2	2	4								
C. 3	3	6								
D. 4	4	8								
E. 5	5	10								

A

100		3	123
100	40		146

B

300		8	318
	50	2	152

C

400	20		425
	10	2	212

D

200	10		225
	10	6	116

E

100	30		132
	20	7	127
200		3	203

F

200		3	253
100	10		116
100		1	131

G

300			316
			140
			221
			132

H

			128
			151
			120
			213

A

300	30	7	337
100	0	4	104

B

200	0		213
	0	5	105

C

	20	10	530
	10	4	114

D

400		12	472
100	10		116

E

	130	5	735
	40	0	140

F

	90		603
200	0		207
300			

G

400		17	517
300			388
	20		

H

	120		432
100		4	194
200			

I What's My Rule?

x	20	17	27	19	25	37	50	39			100
x - 17	3	0	10						17	29	

Label the largest amount with an A in the blue box; next largest with a B; next largest with a C; etc. Write the differences in each blank space.

1

Four days . . . . . B

Twenty-four hours C

One week . . . . . A

Difference between:

A and B: _____ days

B and C: _____ days

A and C: _____ days

2

Eighteen cents . . . . .

One dollar . . . . .

A half-dollar . . . . . B

Difference between:

A and B: _____ ¢

B and C: _____ ¢

A and C: _____ ¢

3

Sixteen inches . . . . .

One foot . . . . .

One foot and seven inches . . .

One yard . . . . .

Difference between:

A and B: _____ in. B and D: _____ in.

B and C: _____ in. C and D: _____ in.

A and C: _____ in. A and D: _____ in.

4

One year and two months . . . .

Half of a year . . . . .

A year and a half . . . . .

Two years . . . . .

Difference between:

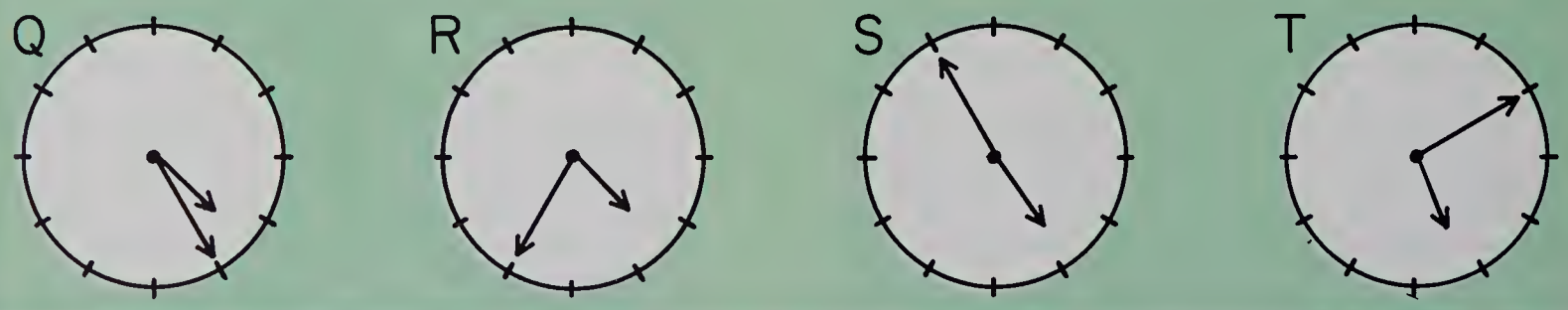
A and B: 6 mos. B and C: _____ mos.

B and D: _____ mos. C and D: _____ mos.

A and D: _____ mos. A and C: _____ mos.

5

Billy was waiting for his favorite TV program to begin at 5:15. He looked at the clock four different times before the program started.



How long was it before the program started in each case?

Q: 50 minutes to wait

R: _____ minutes to wait

S: _____ minutes to wait

T: _____ minutes to wait

How long was it between the times he looked at the clock?

Q and R: _____ minutes

R and S: _____ minutes

S and T: _____ minutes

Q and T: _____ minutes

I

5 Green ___ White

5 Blue ___ Altogether

II

10 Green ___ White

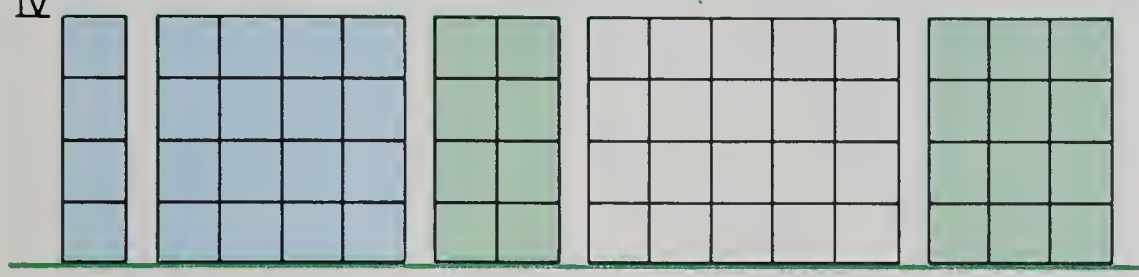
10 Blue ___ Altogether

III

___ Green ___ White

15 Blue ___ Altogether

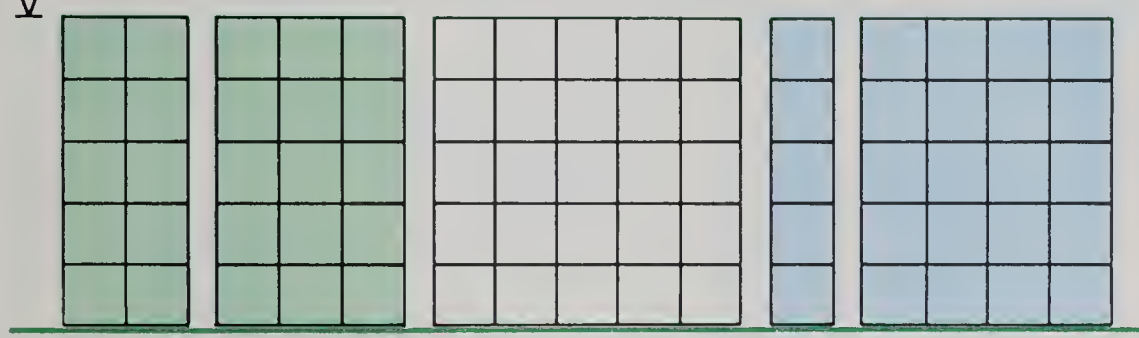
IV



___ Green ___ White

___ Blue ___ Altogether

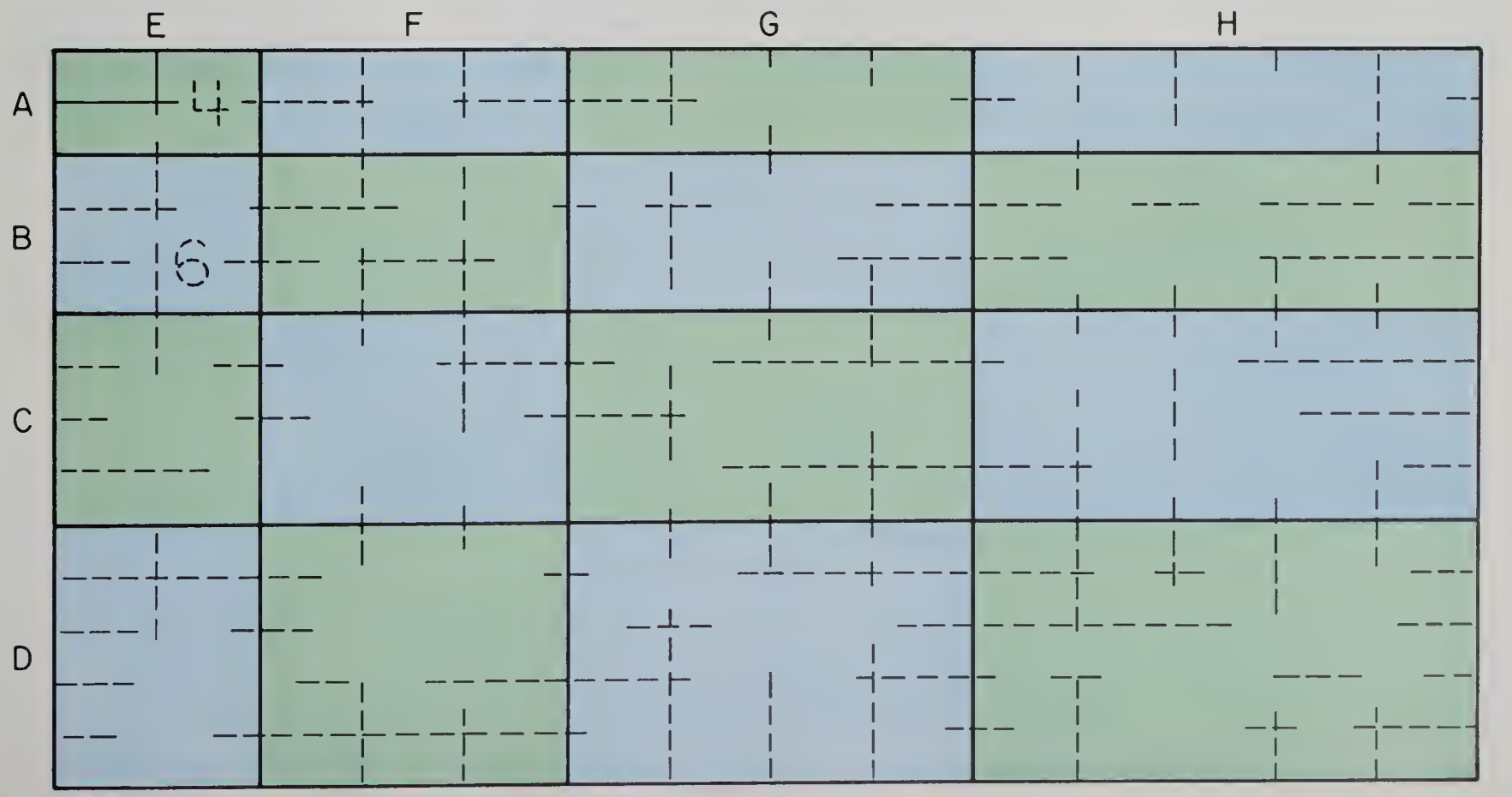
V

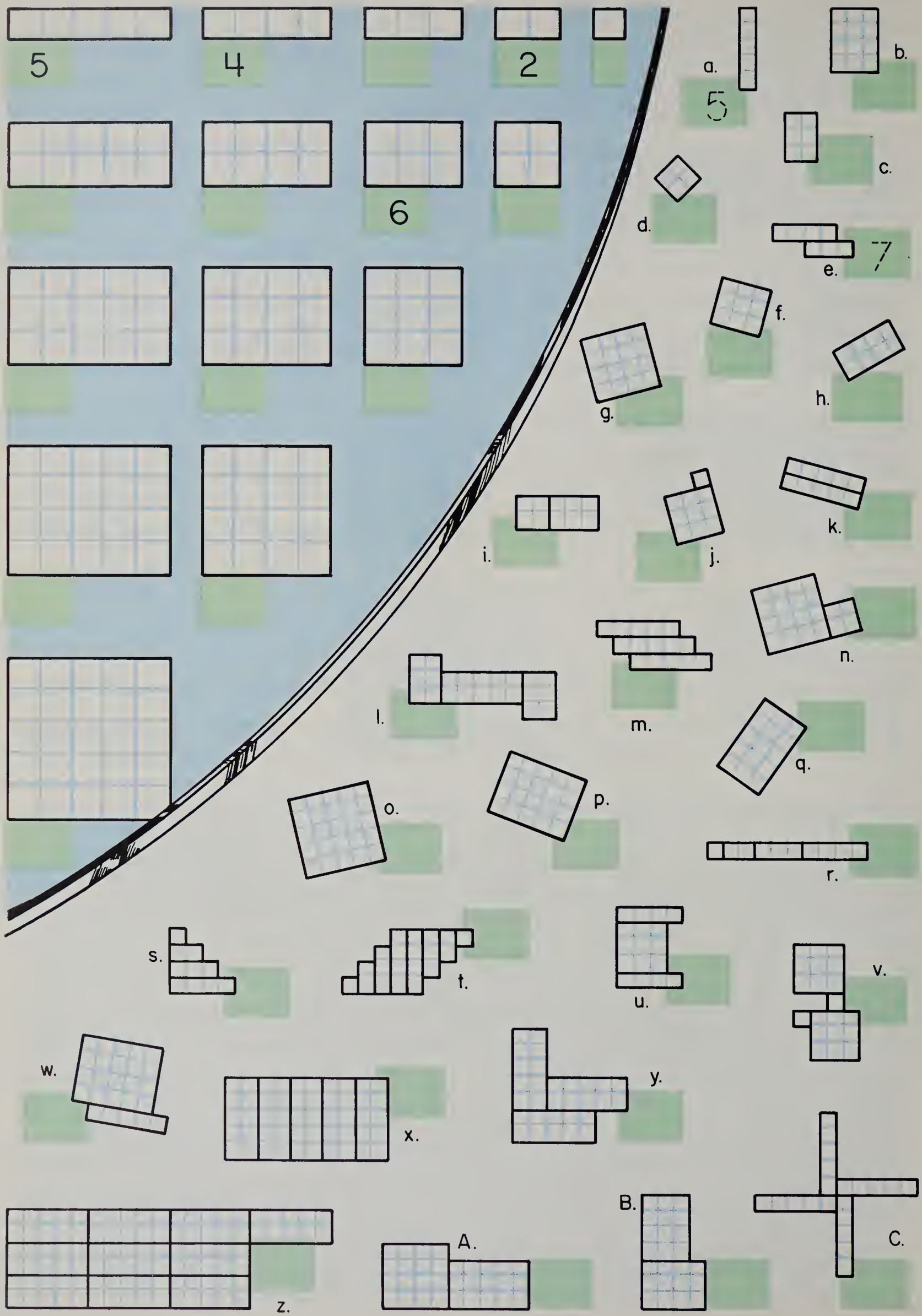


___ Green ___ White

___ Blue ___ Altogether

Write the number of bricks this size ▭ that would fit in each of the tinted boxes.

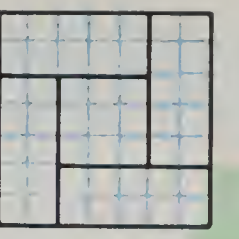



5
4
2
6
a.
5
b.
c.
d.
e.
7
f.
g.
h.
i.
j.
k.
l.
m.
n.
o.
p.
q.
r.
s.
t.
u.
v.
w.
x.
y.
z.
A.
B.
C.

a.

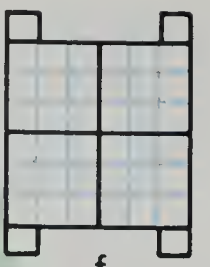
b.

c.

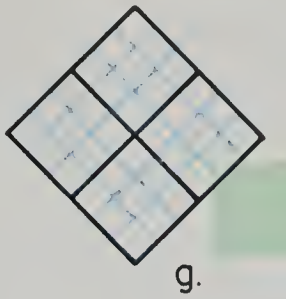


d.

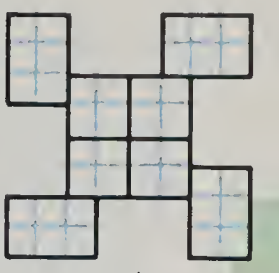
e.



f.



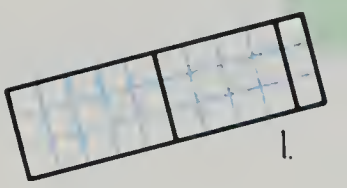
g.



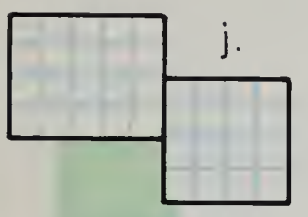
h.

i.

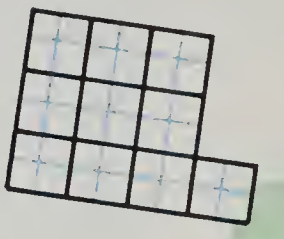
k.



l.



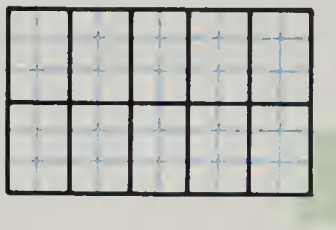
j.



m.

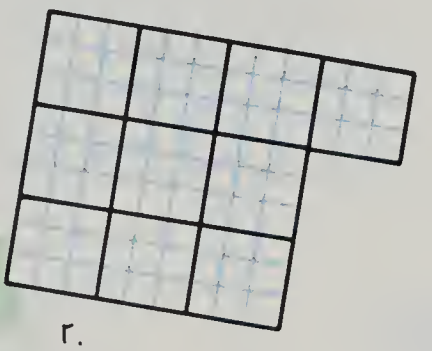
o.

n.

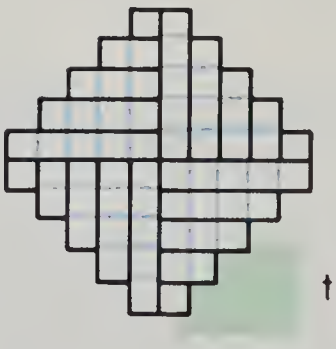


p.

q.

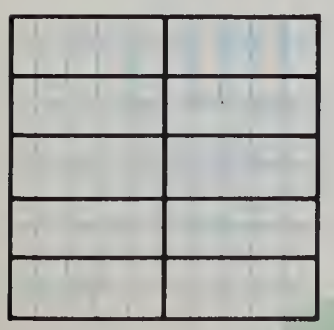


r.

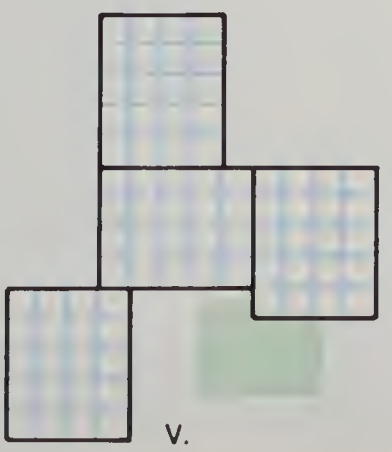


t.

s.

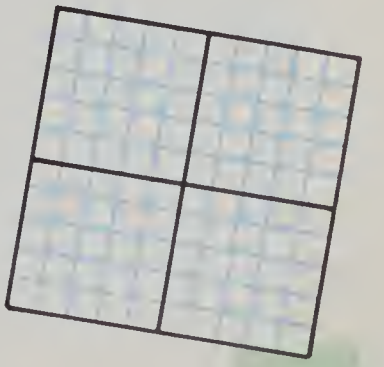


u.



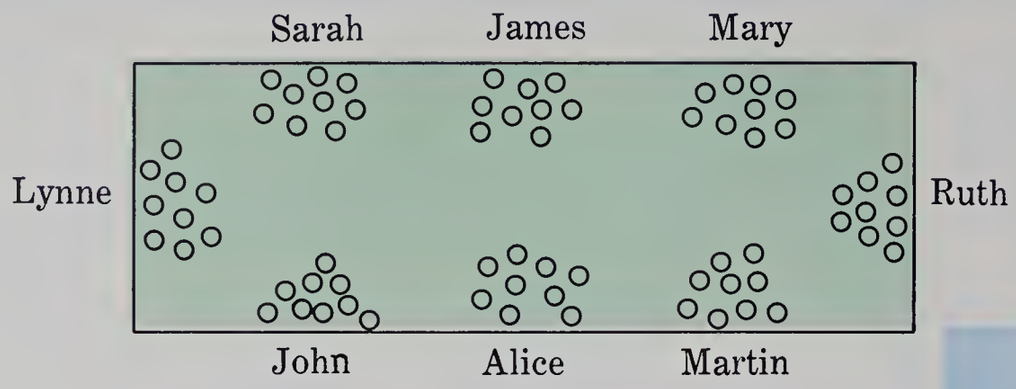
v.

w.



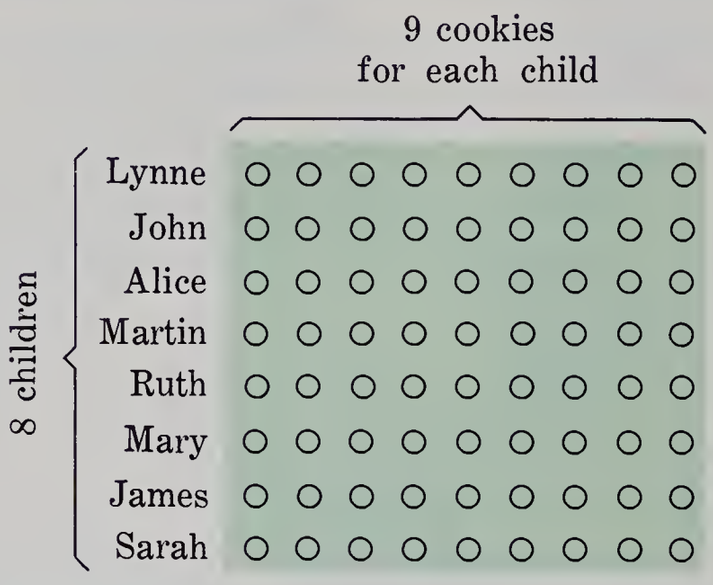
x.

There will be eight children at Lynne's party. Each of them will get nine cookies. How many dozens of cookies will Lynne need to buy?

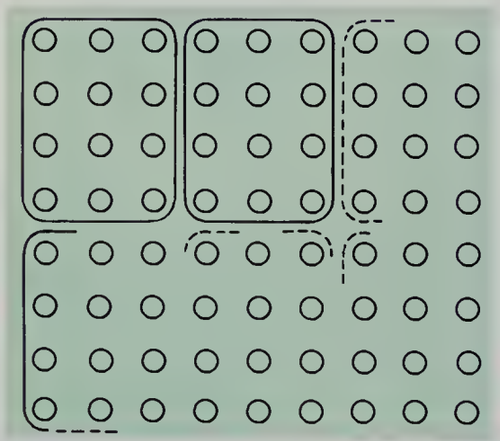


dozens

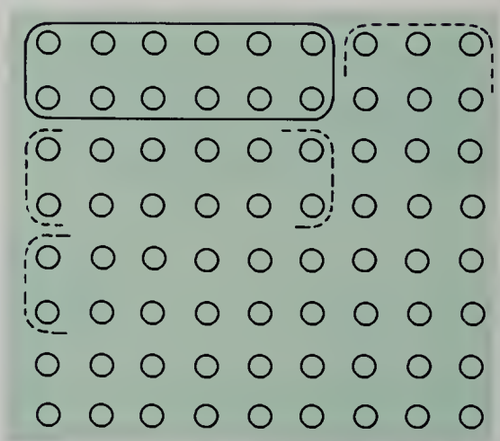
Here's an easy way to find out. Think of 8 rows of 9 cookies each.



Then group in dozens like this:



or like this:

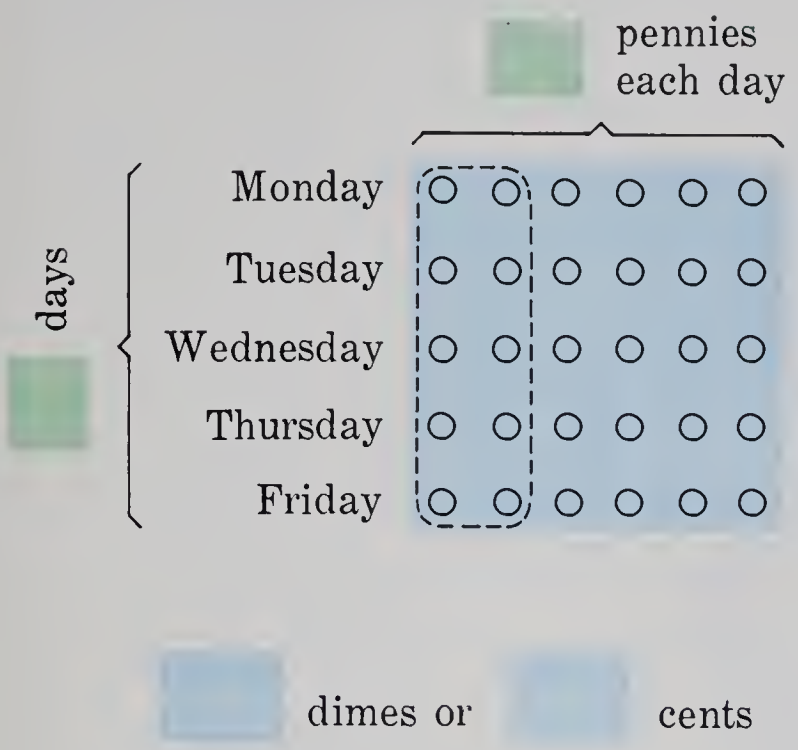


Lynne will need to buy dozens of cookies.

Draw loops around groups to make it easy to find the answers.

I

Nellie earns 6 pennies each day. How much does she earn in 5 days?

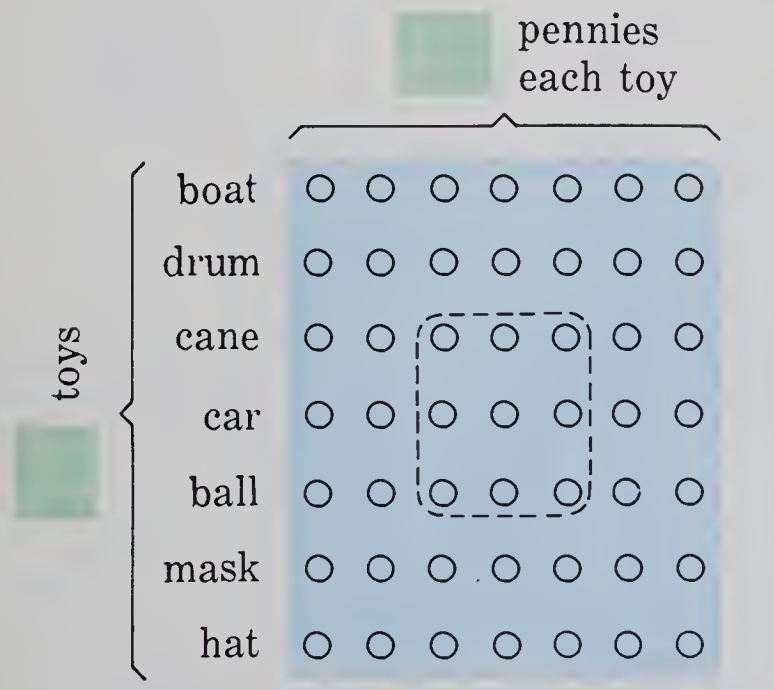


II

Susan exchanged 100 pennies for quarters, dimes, and nickels.

III

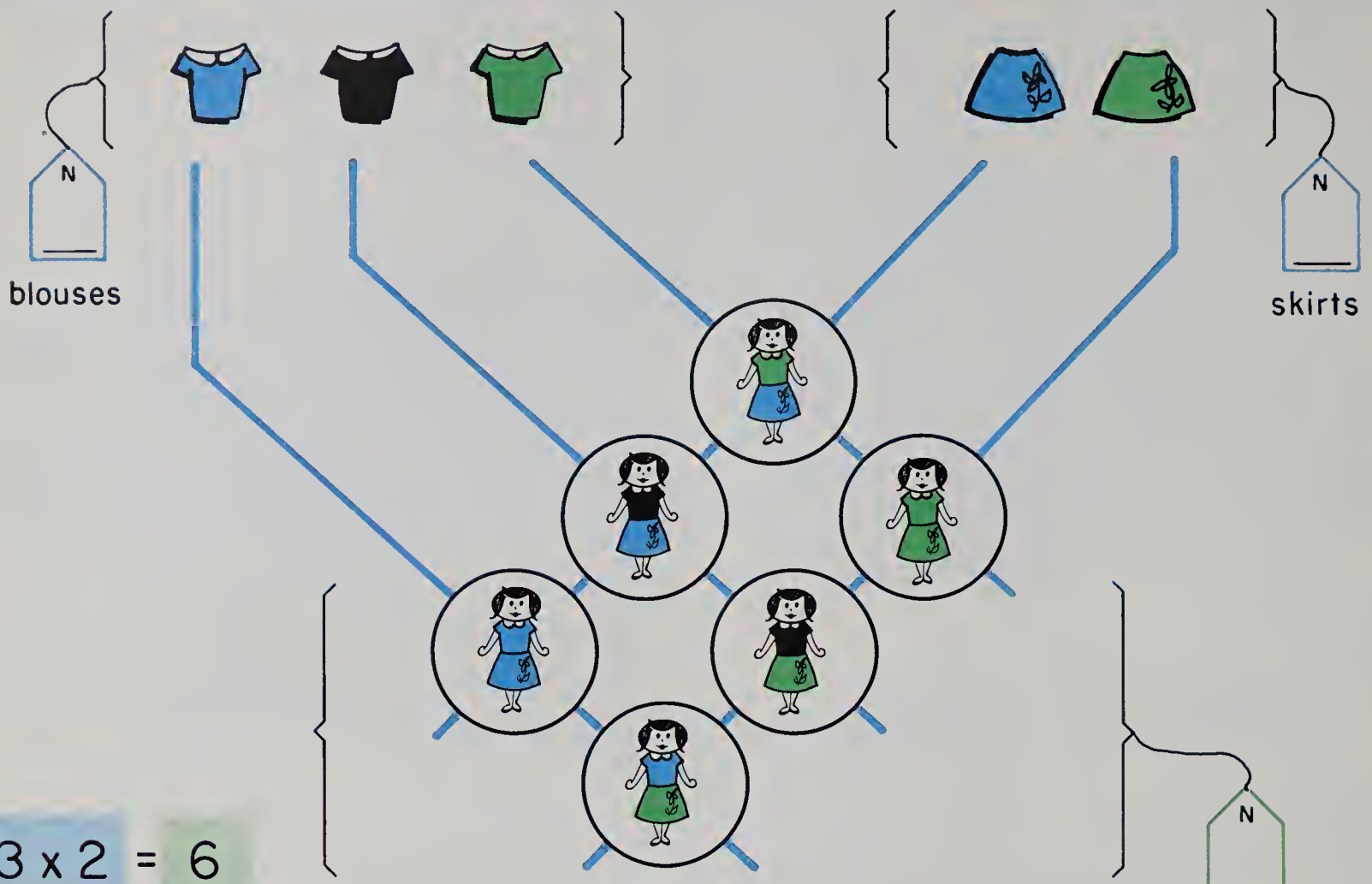
Peter buys 7 toys and each costs 7 cents. How much does he spend?



IV

There are seven hens. Each hen lays an egg every day. How many eggs will the seven hens lay in a week?

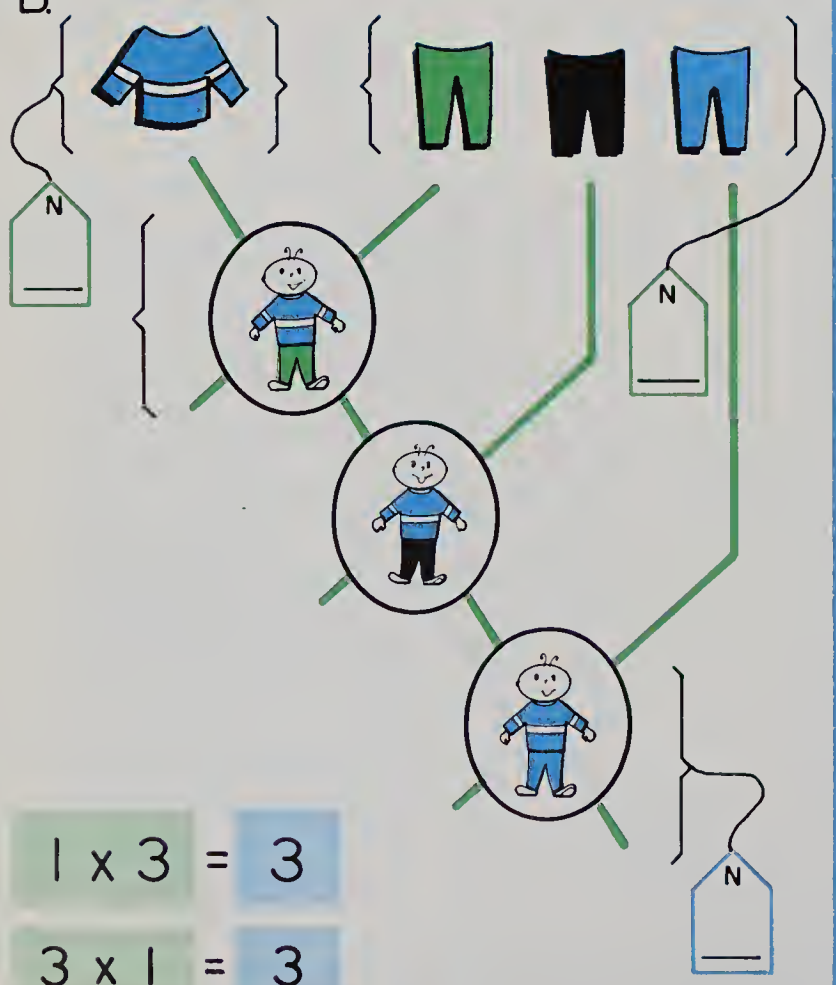
A. Sue has 3 blouses and 2 skirts. How many different outfits can she wear?



3 x 2 = 6

2 x 3 = 6

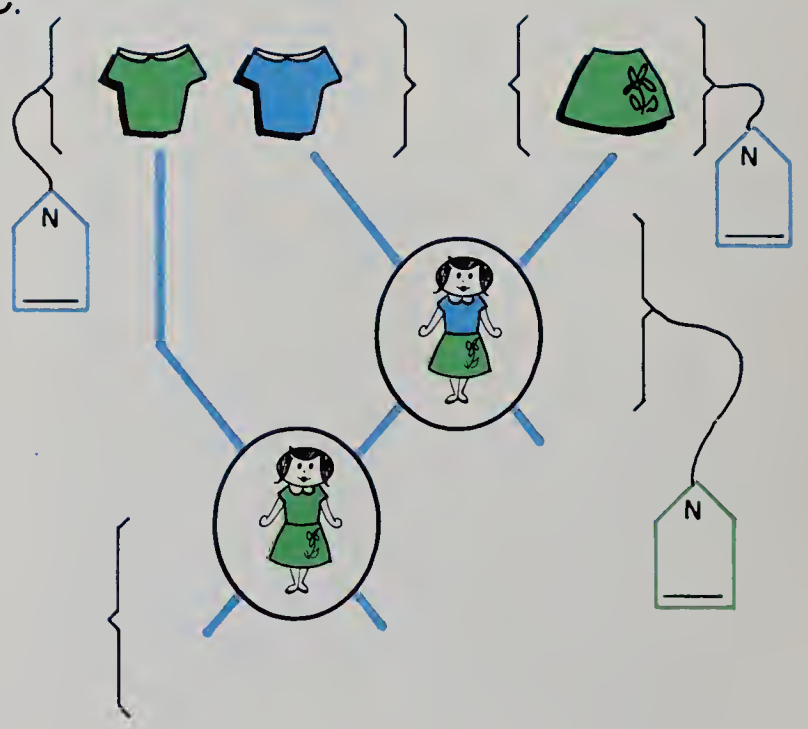
B.



1 x 3 = 3

3 x 1 = 3

C.



2 x 1 = 2

1 x 2 = 2

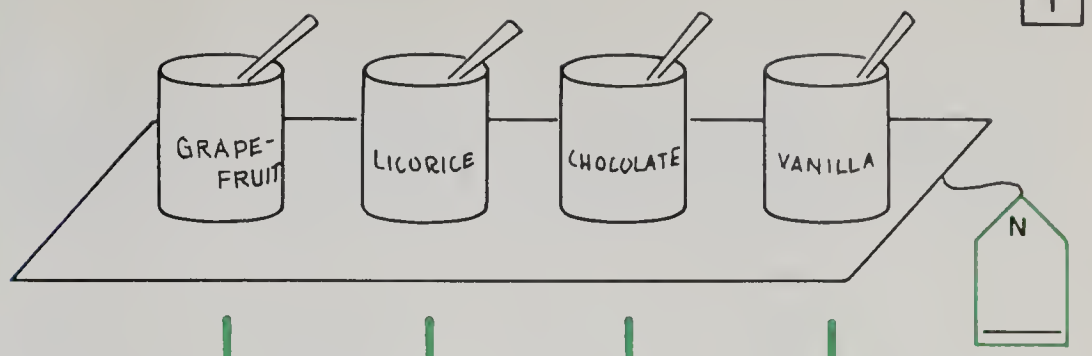
Ice Cream Sale!

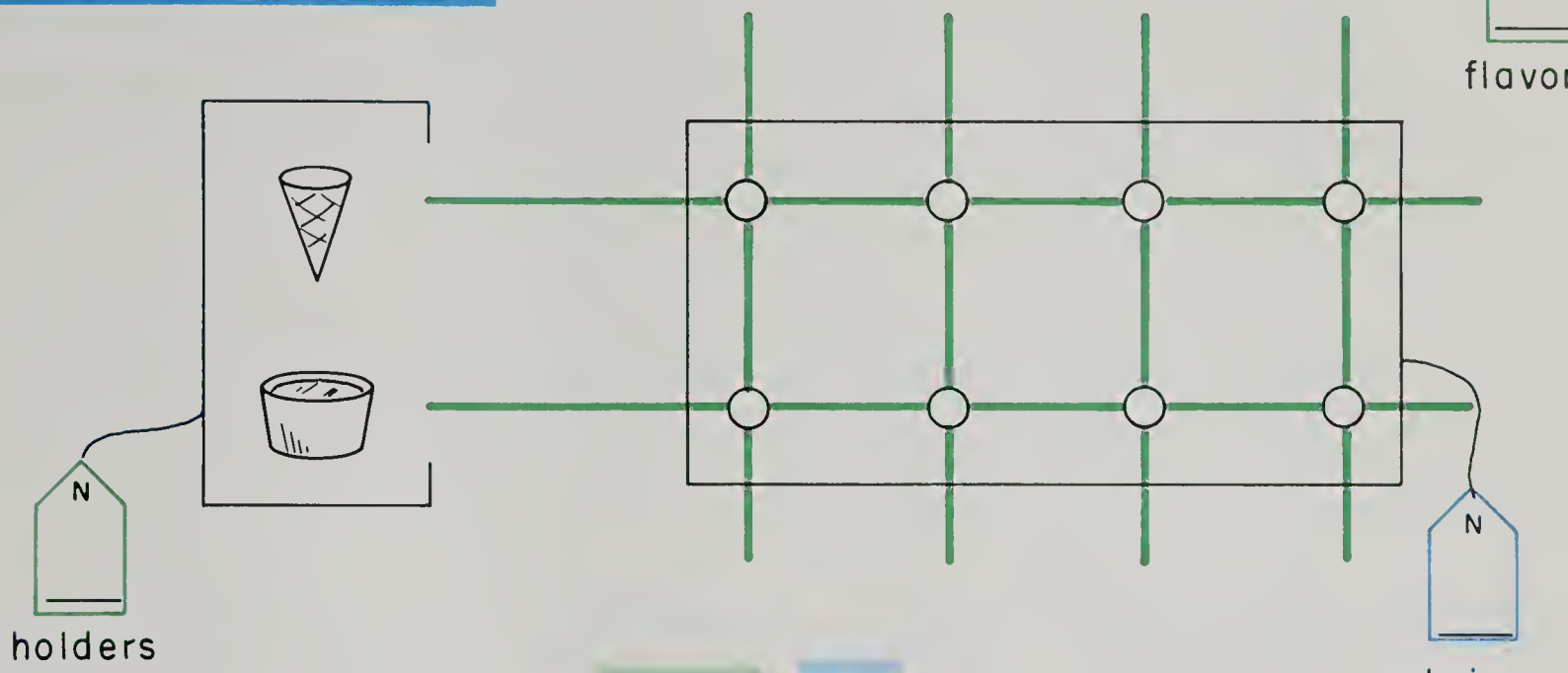
Cones or Cups

3¢

Four Flavors

1

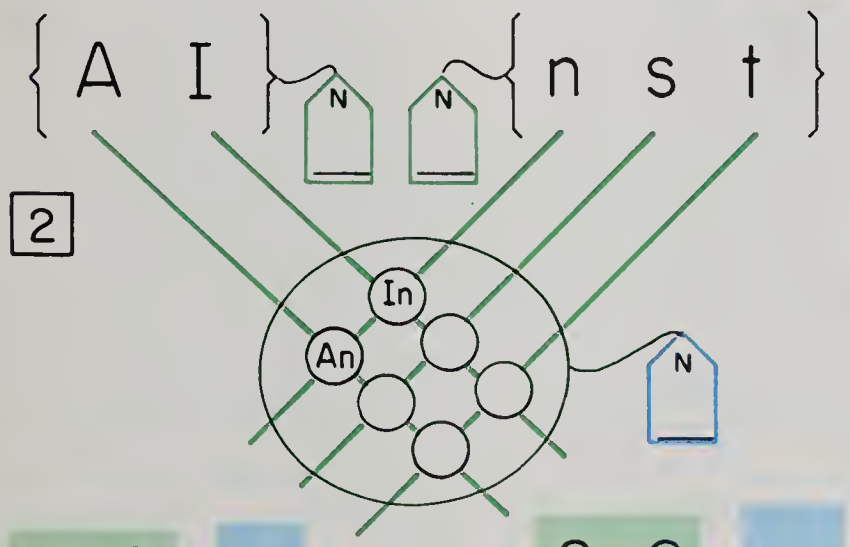




2 x 4 = ☐

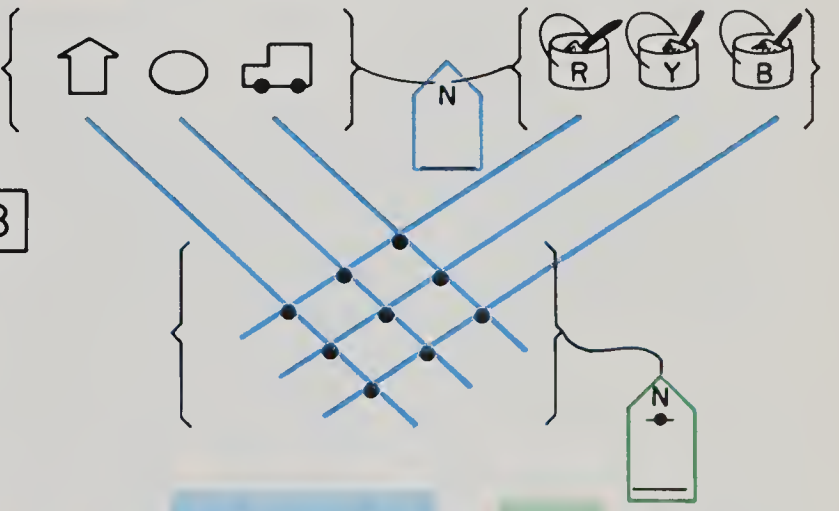
4 x ___ = ☐

2



3 x 2 = ☐ 2 x 3 = ☐

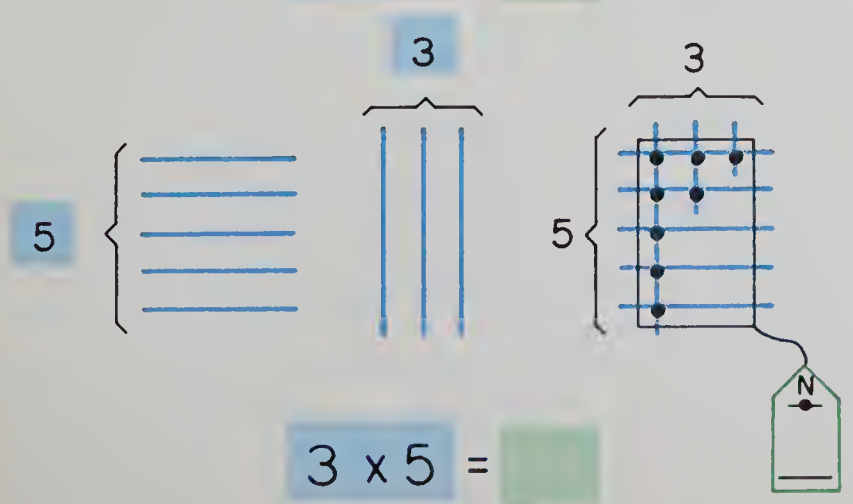
3



△ x △ = ☐

4

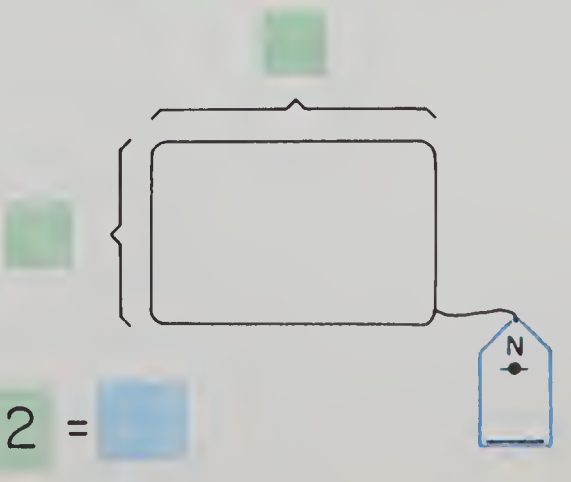
5 x 3 = ☐



3 x 5 = ☐

5

2 x 6 = ☐



6 x 2 = ☐

Find my rule. Then complete all examples.

	F	G	H	I	J
A	2 → 1{2	1 → 1{1	3 → 1{3	4 → 1{4	7 → 1{7
B	2 → 2{4	1 → 2{2	3 → 2{6	4 → 2{	7 → 2{
C	2 → 3{6	1 → 3{	3 → 3{	4 → 3{	7 → 3{
D	2 → 5{	1 → 5{	3 → 5{	4 → 5{	7 → 5{
E	2 → 8{	1 → 8{	3 → 8{	4 → 8{	7 → 8{

A shorthand way of writing some of the examples above.

1 x 2 = 2 1 x 3 = 3 1 x 7 = 7

2 x 2 = 4 2 x 3 = ___ 2 x 4 = ___

3 x 2 = ___ 3 x 3 = ___ 3 x 4 = ___ 3 x ___ = 21

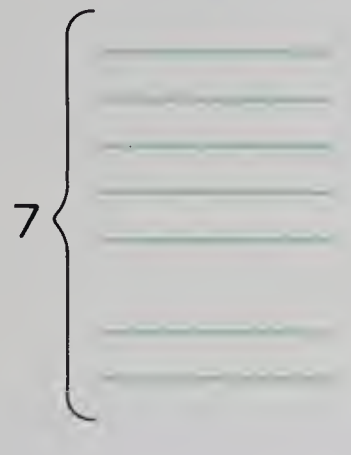
5 x 2 = ___ 5 x 3 = ___ 8 x 2 = ___ 8 x 3 = ___

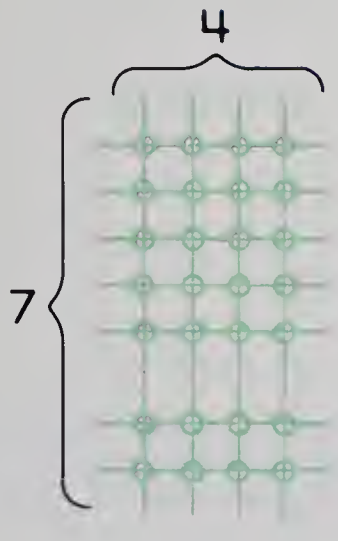
5 x 1 = ___ 5 x 4 = ___ 8 x 1 = ___ 8 x 4 = ___ 7 x 8 = ___

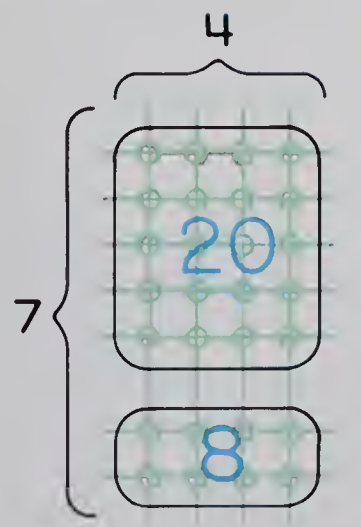
5 x 3 = ___ 5 x 7 = ___ 8 x 3 = ___ 8 x 7 = ___

Problem

7 x 4 =



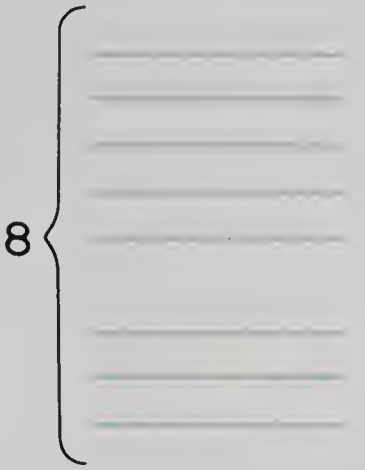




7 x 4 = 28

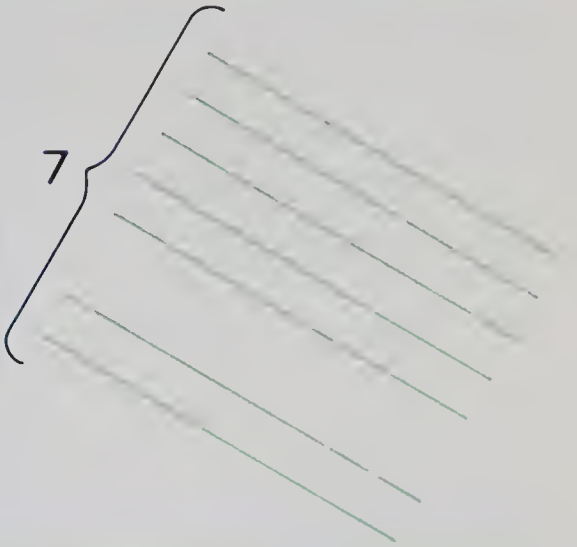
A

8 x 3 =



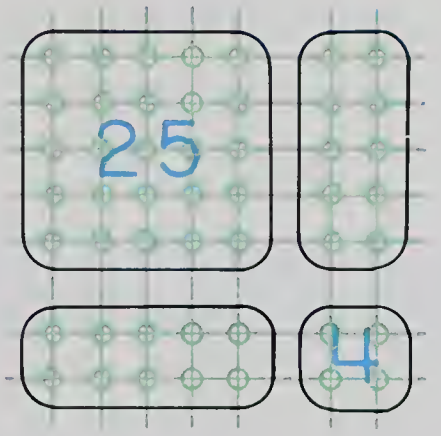
B

7 x 6 =



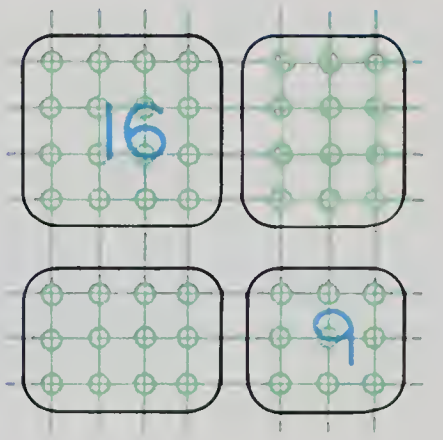
C

___ x ___ =



D

___ x ___ =



E

3 x 7 =

F

5 x 6 =

13
+17

(A) 45 (B) 30 (C) 4 (D) 20

Mark the correct answer.

Mark the furthest from the correct answer.

Difference between the answers you marked.

A B C D ○ ● ⊗ ○ 26

1 **2**

One week Bill received his 50¢ allowance and he earned 65¢ shoveling snow. How much did he receive that week?

(A) $2.00 (C) $1.25

(B) $1.15 (D) 15¢

A B C D ○ ○ ○ ○ $_____

Mary saved $2.50 to spend at camp. She had 65¢ left when she returned home. How much had she spent?

(A) Nothing (C) 85¢

(B) $3.15 (D) $1.85

A B C D ○ ○ ○ ○ $_____

3

Harry's family drove 34 miles before lunch and 28 miles after lunch. How many miles did they drive altogether?

(A) 72 mi. (C) 62 mi.

(B) 6 mi. (D) 64 mi.

A B C D ○ ○ ○ ○ _____mi.

4 **5**

Which is longest?

(A) One yard

(B) Four feet

(C) Thirty-five inches

(D) Two and a half feet

A B C D ○ ○ ○ ○ _____in.

Which is two tens and eight ones?

(A) Eighty-two

(B) Eighteen

(C) Twenty-eight

(D) Fifty-six

A B C D ○ ○ ○ ○ _____

6

Which is largest?

(A) 120

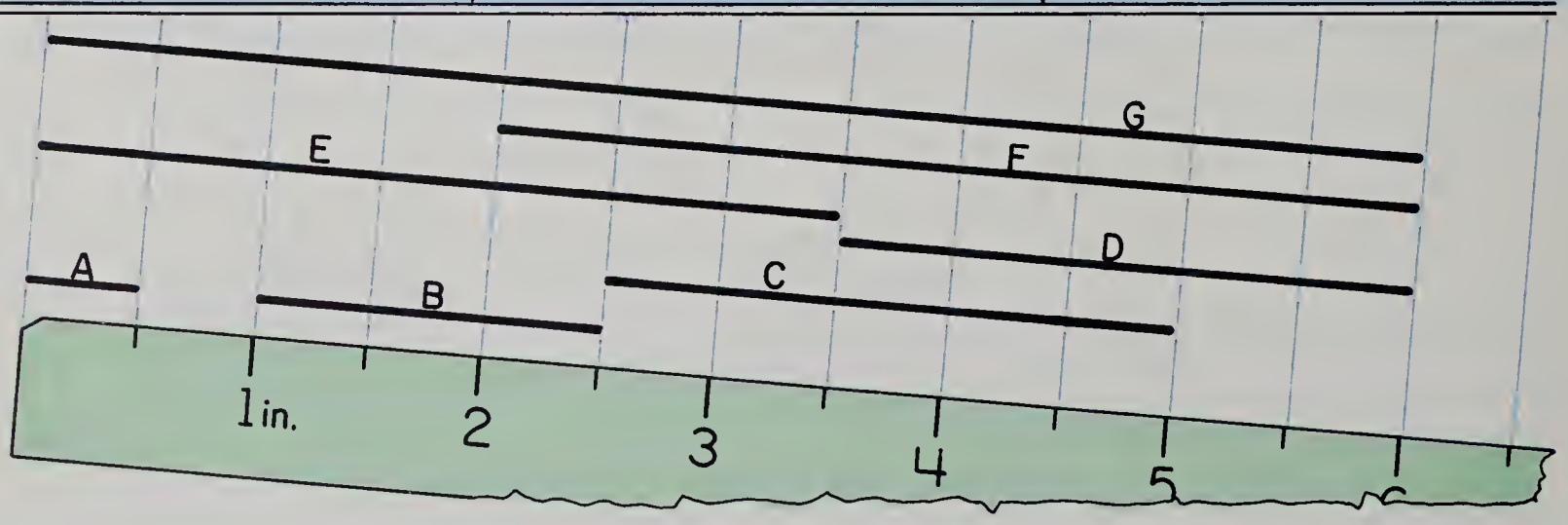
(B) 201

(C) 210

(D) 102

A B C D ○ ○ ○ ○ _____

7



Sums of lengths:

A and B: _____ in. A and C: _____ in.

G and F: _____ in. E and B: _____ in.

A and D: _____ in. E and D: _____ in.

B and C: _____ in. E and C: _____ in.

Differences between lengths:

A and B: _____ in. G and F: _____ in.

A and D: _____ in. E and D: _____ in.

C and B: _____ in. E and C: _____ in.

C and D: _____ in. B and E: _____ in.

Find my rule. Then complete all the examples.

	2	1	3	4
1	2	1	3	4
2	4	2	6	
3				
4				
5				
6				

	3
2	
3	
4	

	4
4	

Here is a shorter way of writing some of the examples above.

$2\overline{)6}^{\,3}$ $3\overline{)9}^{\,3}$

$1\overline{)4}^{\,4}$ $3\overline{)12}^{\,4}$ $2\overline{)4}^{\,2}$ $3\overline{)\ \ }^{\,2}$ $6\overline{)\ \ }^{\,3}$ $5\overline{)\ \ }^{\,4}$

$5\overline{)\ \ }^{\,2}$ $4\overline{)\ \ }^{\,3}$ $4\overline{)\ \ }^{\,4}$ $4\overline{)\ \ }^{\,2}$ $4\overline{)\ \ }^{\,5}$

This is about sharing one dozen chocolates.

A.

4 for each child

3 children

Bill
Mary
Fred

$3\overline{)12}$ $4\overline{)12}$

3 x ___ = 12 = 4 x ___

B.

___

Bill
Mary
Fred
Sarah

C.

___

Bill
Mary
Fred
Sarah
Jose
Ruth

___$\overline{)12}$ ___$\overline{)12}$

6 x ___ = 12 = 2 x ___

D.

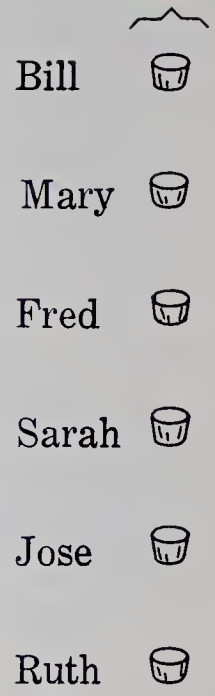
___

Bill
Mary

E.

___

Bill
Mary
Fred
Sarah
Jose
Ruth
Dino
Bob
Milt
Ellen
Carla
Dora



F.

___

Bill

___$\overline{)12}$ ___$\overline{)12}$

___ x ___ = 12 = ___ x ___

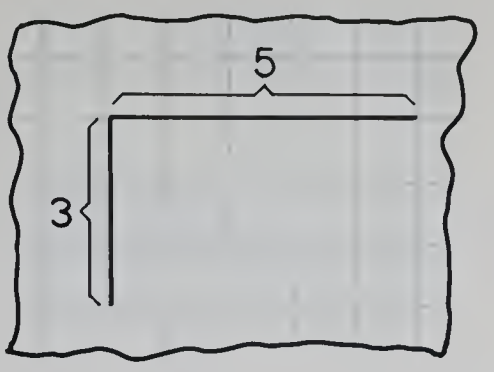
G.

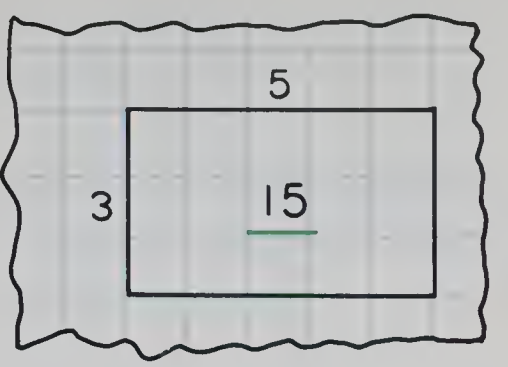
23	55	15	27	68	77	90	83	84	92
+54	+35	+68	+57	+24	-23	-35	-15	-57	-68
___	___	___	___	___	___	___	___	___	___
___	___	___	___	___	___	___	___	___	___

Problem

$3 \times 5 =$ ▢

$$3\overline{)5}$$





Answer

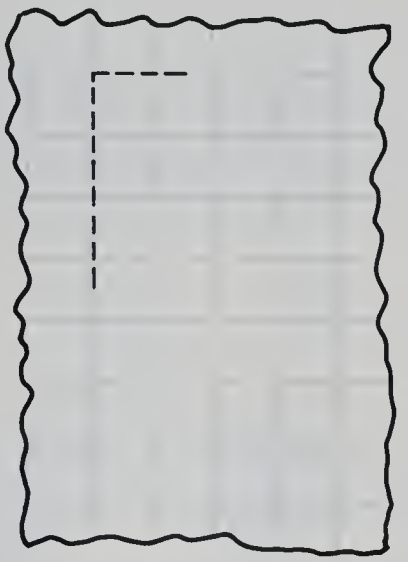
$$3\overline{)5}$$

$3 \times 5 = 15$

A.

$7 \times 3 =$ ▢

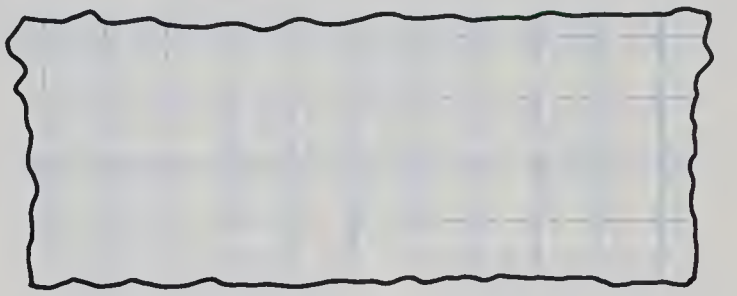
$$7\overline{)3}$$



B.

$2 \times 9 =$ ▢

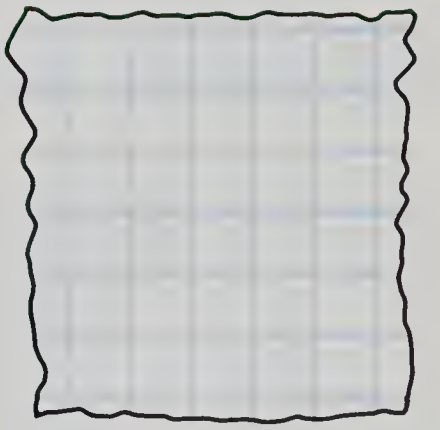
$$2\overline{)9}$$



C.

$5 \times 5 =$ ▢

$$5\overline{)5}$$



D.

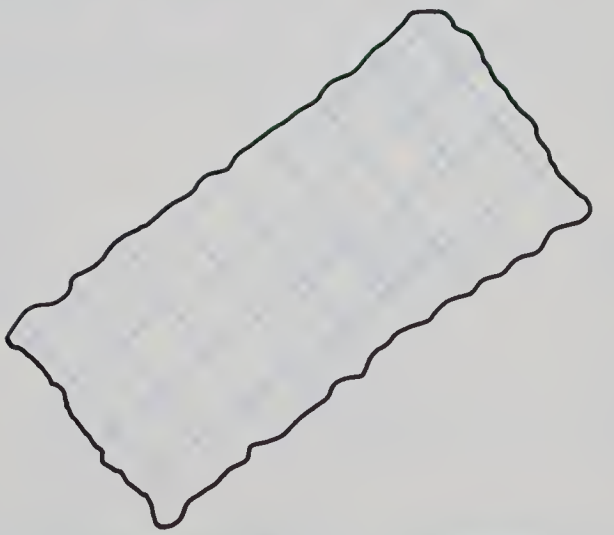
$2 \times 6 =$ ▢

$$2\overline{)6}$$

E.

$6 \times 2 =$ ▢

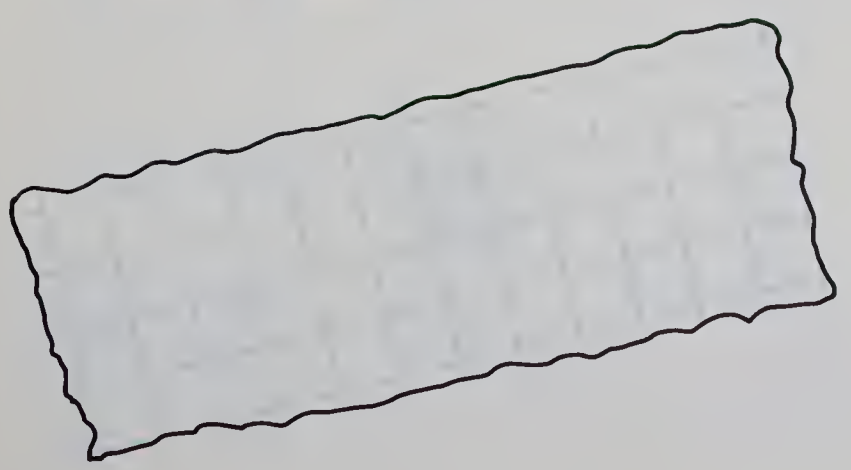
$$2\overline{)6}$$



F.

$11 \times 3 =$ ▢

$$11\overline{)3}$$



G.

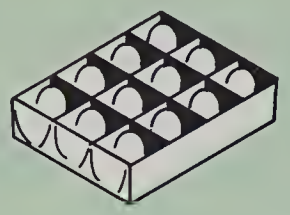
$$9\overline{)2}$$

H.

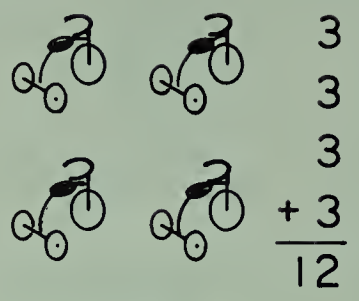
$$3\overline{)7}$$

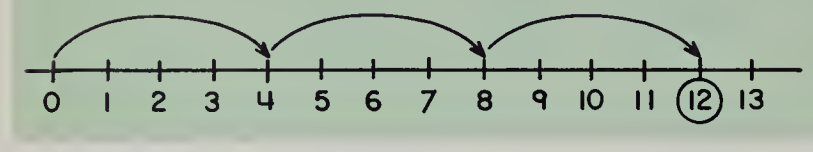
I.

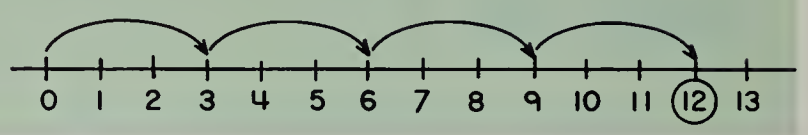
$$3\overline{)11}$$



4 + 4 + 4 = 12







Each picture is about 3, 4, and 12. Here are some shorthand ways of writing what the pictures tell us.

a. $3 \times 4 = 12$

b. $4 \times 3 = 12$

c. $\begin{array}{r} 4 \\ \times 3 \\ \hline 12 \end{array}$

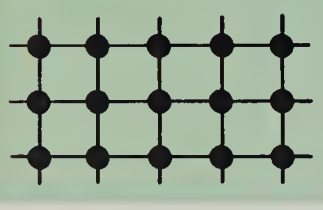
d. $\begin{array}{r} 3 \\ \times 4 \\ \hline 12 \end{array}$

e. $3\overline{)12}$ → 4

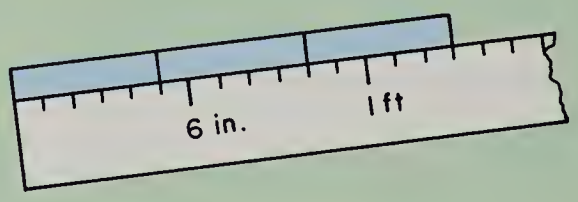
f. $4\overline{)12}$ → 3

g. $12 \div 4 = 3$

h. $12 \div 3 = 4$

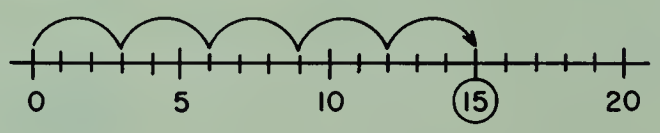


3
3
3
3
+ 3
15



3 + 3 + 3 + 3 + 3 = 15

5 + 5 + 5 = 15



5
5
+ 5
15

Each of these pictures is about 3, 5, and 15. Fill the blanks in these shorthand ways of writing what the pictures tell you.

i. ☐ × 5 = ☐

j. ☐ × 3 = ☐

k. ☐ ÷ 3 = ☐

l. ☐ ÷ 5 = ☐

m. $\begin{array}{r} 5 \\ \times 3 \\ \hline \square \end{array}$

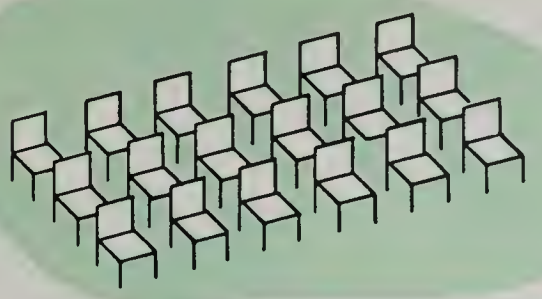
n. $\begin{array}{r} 3 \\ \times 5 \\ \hline \square \end{array}$

o. $5\overline{)15}$ → ☐

p. ☐ ← $\square\overline{)\square}$ → 5

Each picture suggests a fact team of four sentences. Complete the sentences.

A



Multiplication sentences

3 x 6 = ____

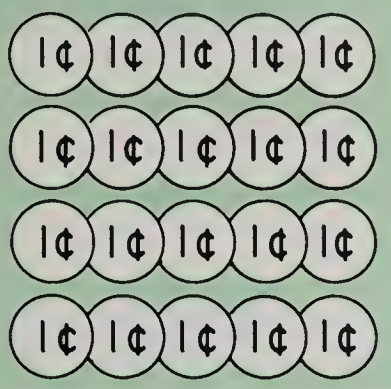
____ x ____ = ____

Division sentences

____ ÷ 6 = ____

____ ÷ 3 = ____

B



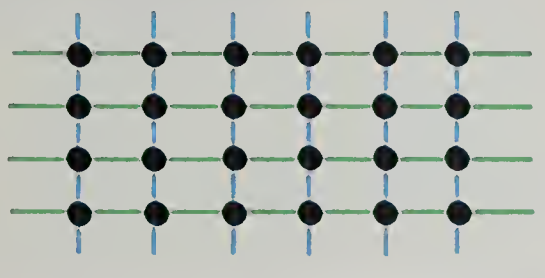
Multiplication sentences

4 5

x ____ x ____

Division sentences

C



Multiplication

4 x ____ = ____

6 x ____ = ____

Division

____ ÷ ____ = ____

____ ÷ ____ = ____

D

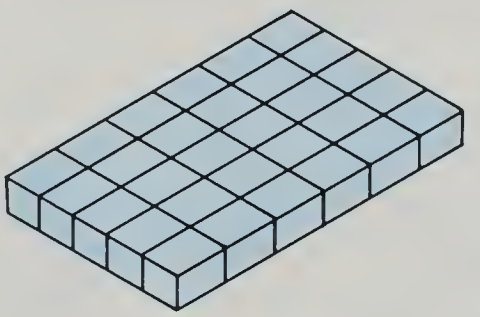
3 x ____ = ____

____ x ____ = ____

12 ÷ ____ = ____

____ ÷ ____ = ____

E

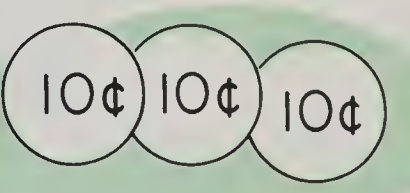


5

x ____ x ____

30

F



____ x ____ = ____

____ x ____ = ____

____ ÷ ____ = ____

____ ÷ ____ = ____

G

2 x 3 = ____ 15 ÷ 3 = ____ 2 x ____ = 8 ____ x 3 = 9 4 x 4 = ____

I

4 tricycles

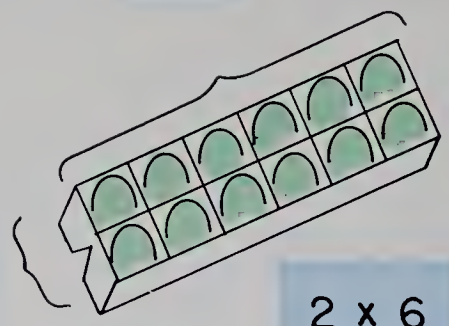
3

wheels on
each tricycle

a total of ____ wheels

II

____ eggs in each row



____

rows of eggs

2 x 6 = ____

6 x 2 = ____

____ eggs in each row

____

rows of
eggs

3 x 4 = ____

4 x 3 = ____

There are ____ eggs in a dozen.

III

____ days in a week

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

____

weeks

There are ____ days in four weeks.

IV

____ days of school
each week

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

____

weeks

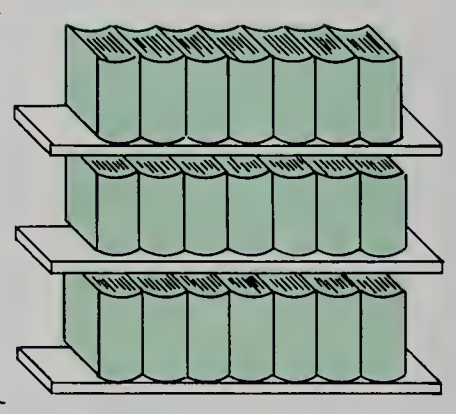
There are ____ days of school
in four weeks.

V

____ books on each shelf

____

shelves



There are ____ books altogether.

VI

A $\begin{array}{r} 6 \\ 2\overline{)} \end{array}$ B $\begin{array}{r} 2 \\ 6\overline{)} \end{array}$ C $\begin{array}{r} 7 \\ 4\overline{)} \end{array}$ D $\begin{array}{r} 3 \\ 4\overline{)} \end{array}$ E $\begin{array}{r} 7 \\ 3\overline{)} \end{array}$

F $\begin{array}{r} 2 \\ 1\overline{)} \end{array}$ G $\begin{array}{r} 10 \\ 3\overline{)} \end{array}$ H $\begin{array}{r} 10 \\ 4\overline{)} \end{array}$ I $\begin{array}{r} 4 \\ 3\overline{)} \end{array}$ J $\begin{array}{r} 3 \\ 3\overline{)} \end{array}$

	A		B	C	D	E
A wagon has	4	wheels.	4	4	4	4
So, on	2	wagons,	3		4	5
there is a total of	8	wheels.		4		

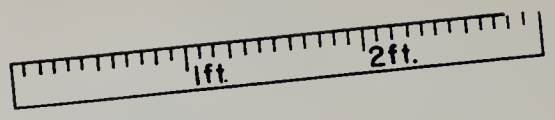
	F		G	H	I	J
In a foot there are		inches.				
So, in	3	feet,		0	1	4
there are		inches.	24			

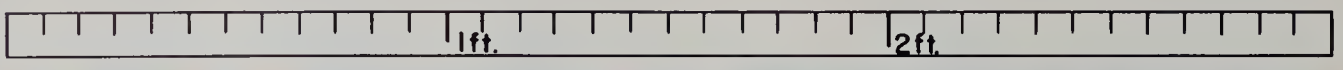
	K		L	M	N	O
A nickel is worth		¢.	¢	¢	¢	¢
Bill had		nickels.	3	2	5	7
Altogether Bill had	20	¢.	¢	¢	¢	¢

	P		Q	R	S	T
On a number line Maria took	2	jumps.	3	5	8	13
The size of each jump was	3	.	3	3	3	3
She started on 0 and landed on		.				

	U		V	W	X
A drum costs	25	¢.	25 ¢	25 ¢	25 ¢
Mike bought	2	drums.		6	10
He paid		¢,	¢	¢	¢
or	$ .50	altogether.	$ 1.00	$	$

Cutting a yardstick into pieces of the same length.



A.


B.

C.

D.

E.

F.

G.

H.

I.

B. $36 \div 2 = 18$ or $36 \div 18 = 2$

C. $36 \div 3 = \_\_\_$ or $36 \div \_\_\_ = 3$

D. $36 \div \_\_\_ = \_\_\_$ or $36 \div \_\_\_ =$

E. $36 \div \_\_\_ = \_\_\_$ or $36 \div \_\_\_ =$

F. $\_\_\overline{)36}$ or $\_\_\overline{)36}$

G. $36 \div \_\_\_ = \_\_\_$ or $36 \div \_\_\_ = \_\_\_$

H. $\_\_\overline{)36}$ or $\_\_\overline{)36}$

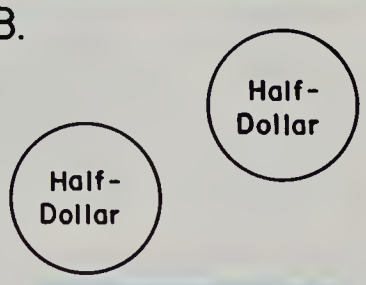
I. $36 \div \_\_\_ = \_\_\_$ or $36 \div \_\_\_ = \_\_\_$

Exchange a dollar bill for coins of the same kind.

A.

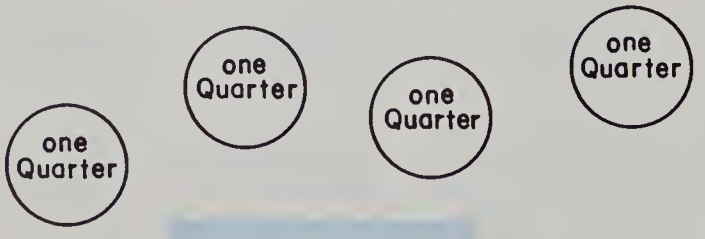
$1 \times 100 = 100$

B.



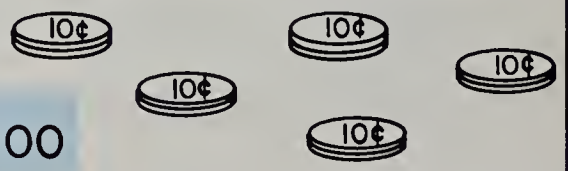
$\_\_ \times 50 = \_\_\_$

C.



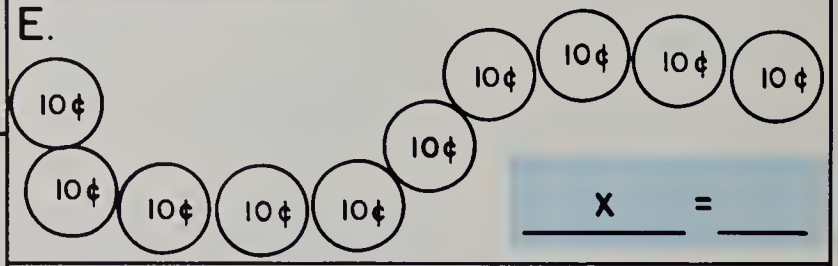
$\_\_ \times 25 = \_\_\_$

D. 5 stacks with 2 dimes in each stack.



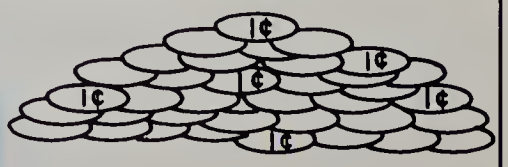
$5 \times \_\_\_ = 100$

E.



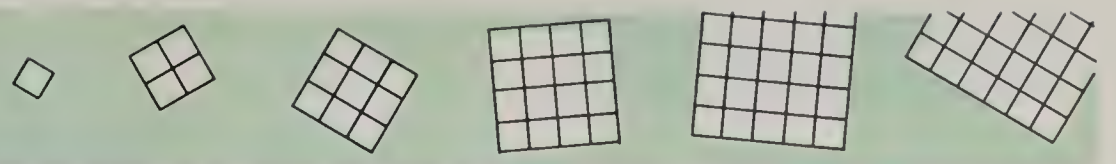
$\_\_\_ \times \_\_\_ = \_\_\_$

F. A pile of pennies worth a dollar.



$\_\_ \times 1 = \_\_\_$

ALL ABOUT SQUARES.



A. 1

1 × 1 = ____

B. 2

2 × 2 = ____

1 + 3 = ------

C. 3

3 × 3 = ____

1 + 3 + 5 = ------

D. 4

4 × 4 = ____

1 + 3 + 5 + 7 = ------

E. 5

5 × 5 = ____

1 + 3 + 5 + 7 + 9 = ------

F. 6

6 × 6 = ____

1 + 3 + 5 + 7 + 9 + 11 = ------

G. 7

7 × 7 = ____

1 + 3 + 5 + 7 + 9 + 11 + 13 = ------

H. 8

8 × 8 = ____

1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 = ------

I. 9

9 × 9 = ____

1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 = ------

J. 10

10 × 10 = ____

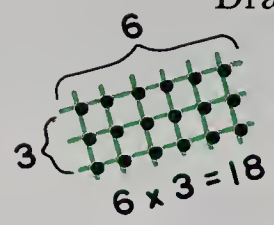
1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19 = ------

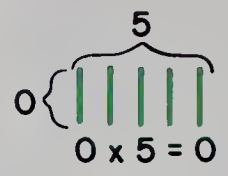
A USEFUL RECORD

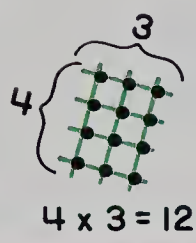
Fill in the blanks

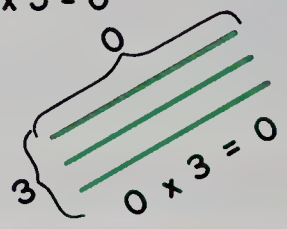
(1) from memory,
or
(2) make a sketch and find out,
or
(3) check back on pages you have done before.

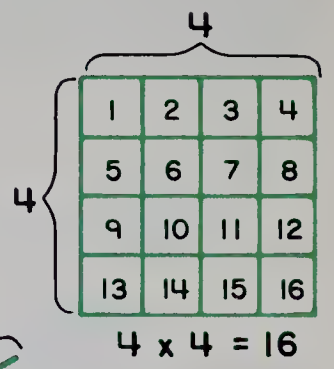
Draw sketches when in doubt.



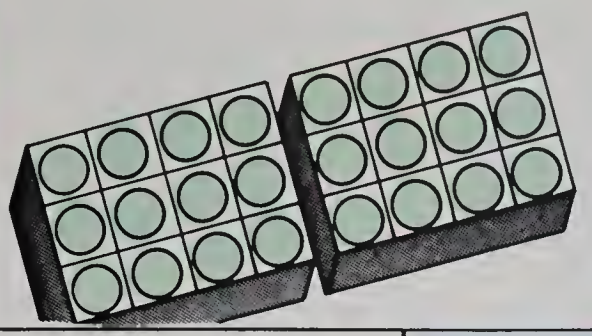




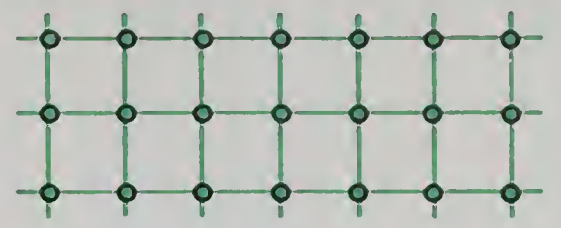


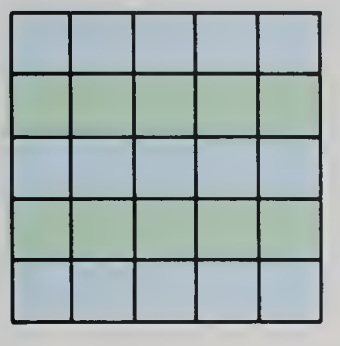


	0	1	2	3	4	5	6	7	8	9	10
x 0	0 x 0	1 x 0	2 x 0	3 x 0	4 x 0	5 x 0	6 x 0	7 x 0	8 x 0	9 x 0	10 x 0
x 1	0 x 1	1 x 1	2 x 1	3 x 1	4 x 1	5 x 1	6 x 1	7 x 1	8 x 1	9 x 1	10 x 1
x 2	0 x 2	1 x 2	2 x 2	3 x 2	4 x 2	5 x 2	6 x 2	7 x 2	8 x 2	9 x 2	10 x 2
x 3	0 x 3 0	1 x 3	2 x 3	3 x 3	4 x 3 12	5 x 3	6 x 3 18	7 x 3	8 x 3	9 x 3	10 x 3
x 4	0 x 4	1 x 4	2 x 4	3 x 4	4 x 4 16	5 x 4	6 x 4	7 x 4	8 x 4	9 x 4	10 x 4
x 5	0 x 5 0	1 x 5	2 x 5	3 x 5	4 x 5	5 x 5	6 x 5	7 x 5	8 x 5	9 x 5	10 x 5
x 6	0 x 6	1 x 6	2 x 6	3 x 6	4 x 6	5 x 6	6 x 6	7 x 6	8 x 6	9 x 6	10 x 6
x 7	0 x 7	1 x 7	2 x 7	3 x 7	4 x 7	5 x 7	6 x 7	7 x 7	8 x 7	9 x 7	10 x 7
x 8	0 x 8	1 x 8	2 x 8	3 x 8	4 x 8	5 x 8	6 x 8	7 x 8	8 x 8	9 x 8	10 x 8
x 9	0 x 9	1 x 9	2 x 9	3 x 9	4 x 9	5 x 9	6 x 9	7 x 9	8 x 9	9 x 9	10 x 9
x 10	0 x 10	1 x 10	2 x 10	3 x 10	4 x 10	5 x 10	6 x 10	7 x 10	8 x 10	9 x 10	10 x 10



A





Complete each sentence. Then label the sketch which tells about the sentence.

A. 7 x 3 = 21

B. 25 ÷ 5 =

C. 3 x = 24

D. 4 x 10 =

E. 18 ÷ = 6

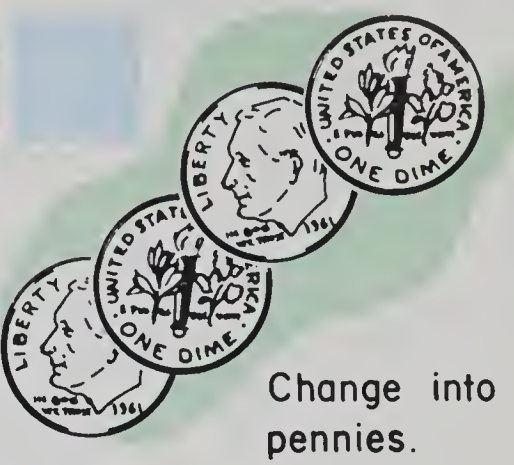
F. ÷ 5 = 4

G. 8 x = 32

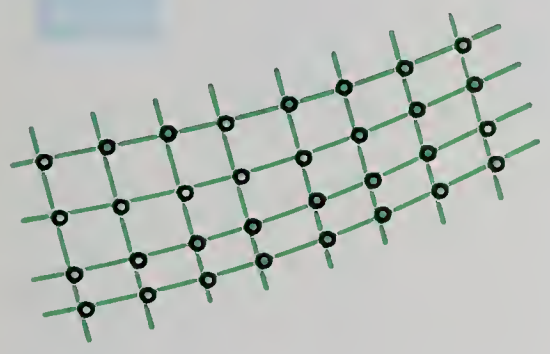
H. x 7 = 35

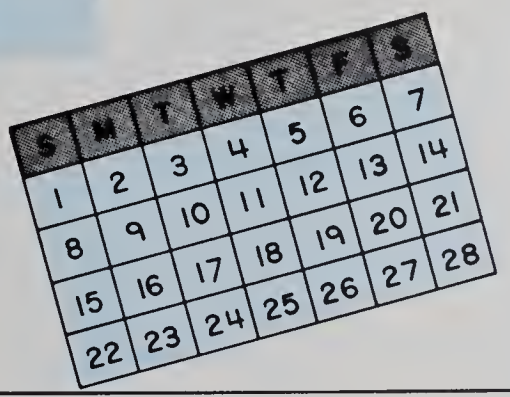
I. 28 ÷ 4 =

J. 7 x 10 =



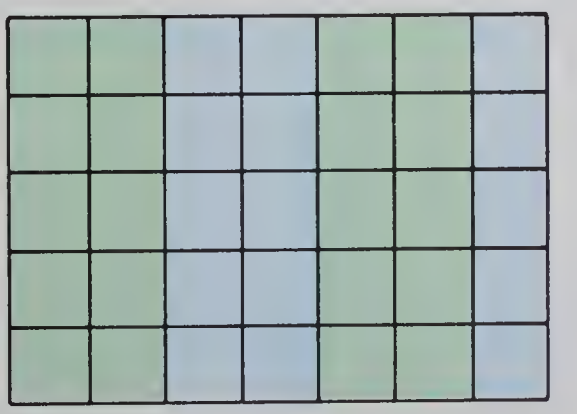
Change into pennies.

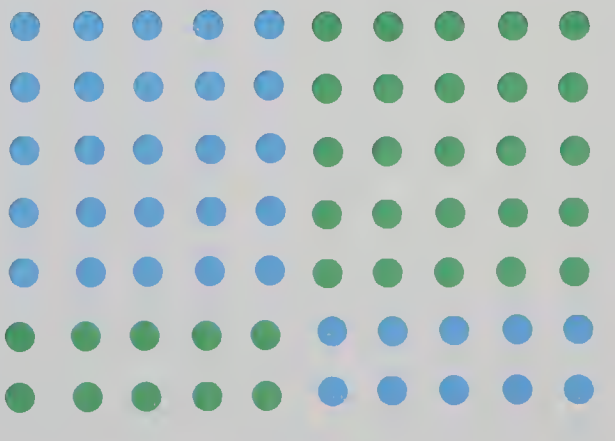




S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

Share this equally among three children.





REFLECTIONS

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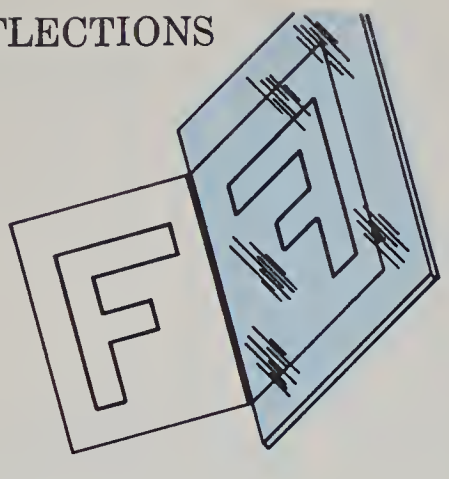

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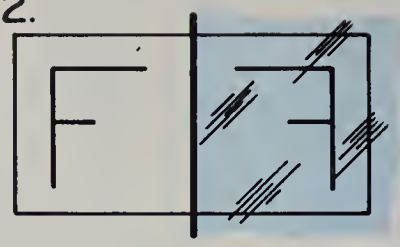
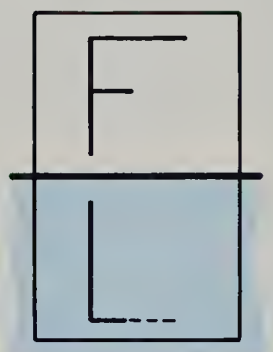


3.

A.



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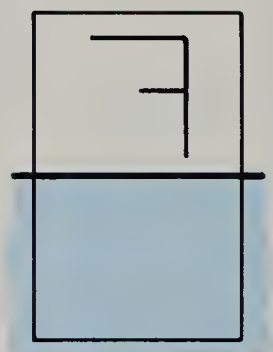

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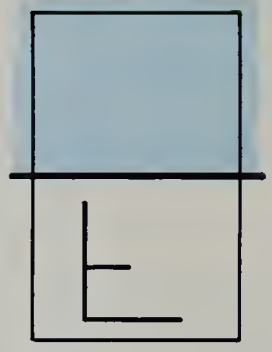

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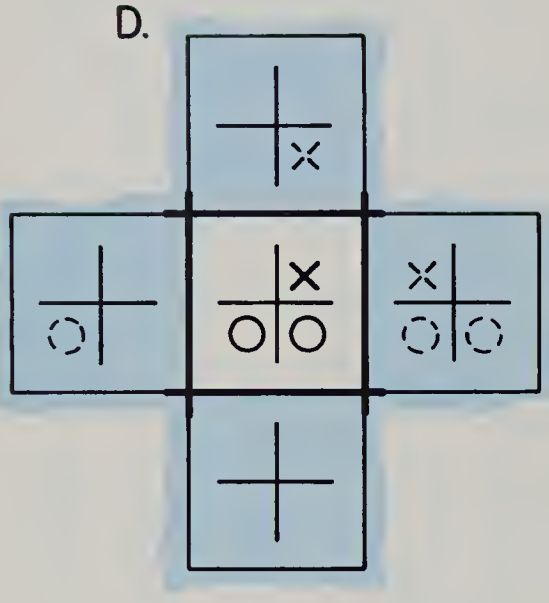

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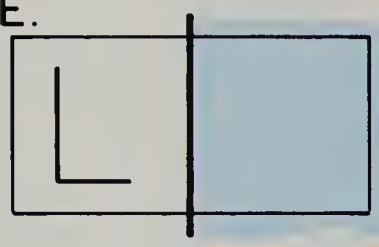

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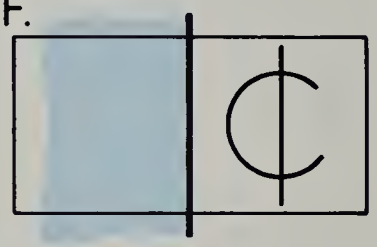

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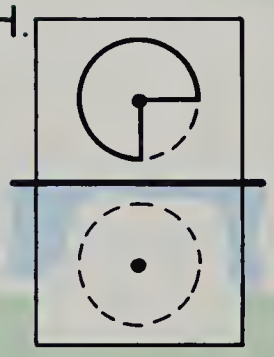

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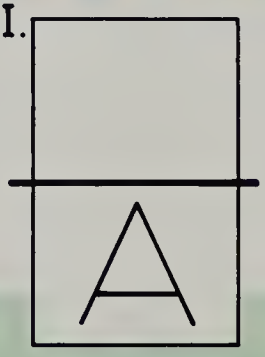

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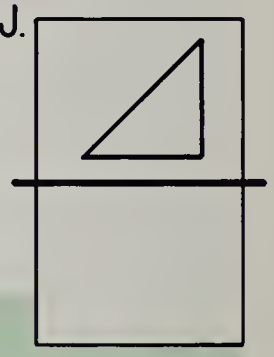

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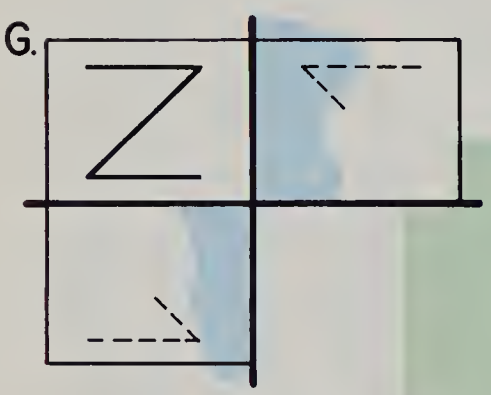

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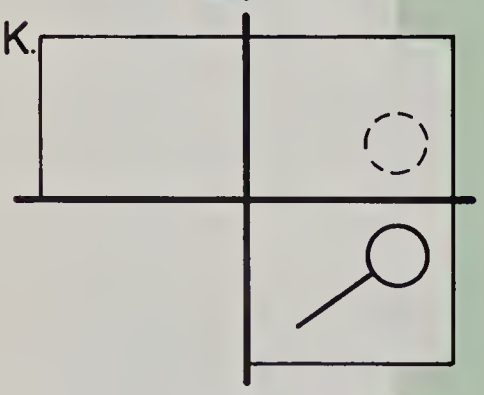

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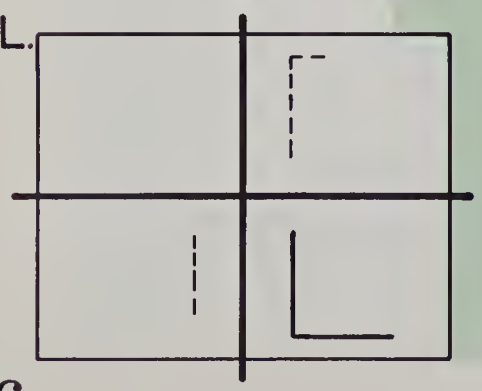

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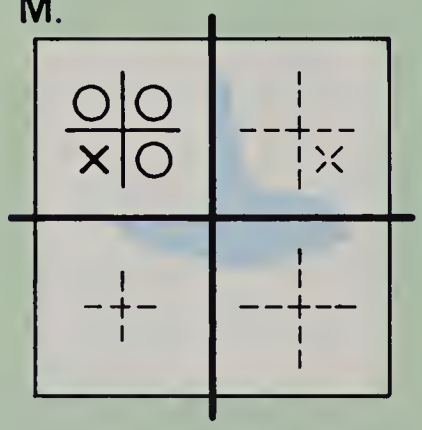

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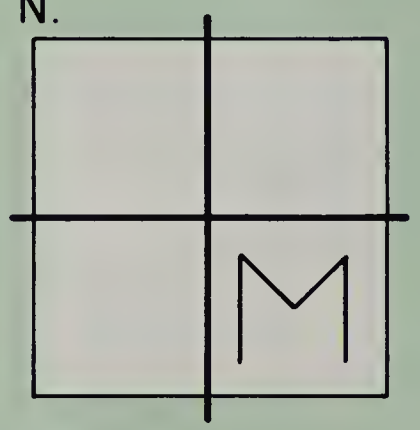
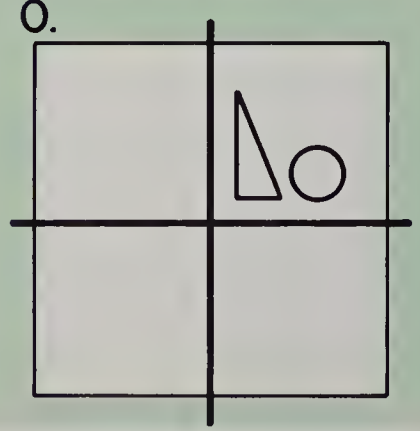


O.



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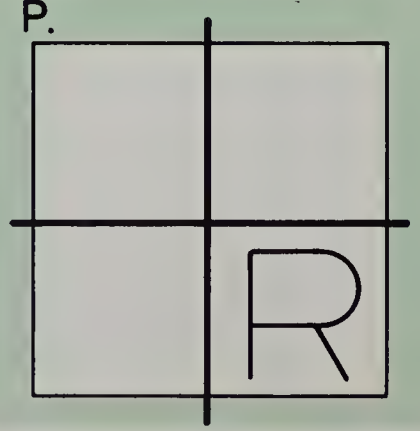

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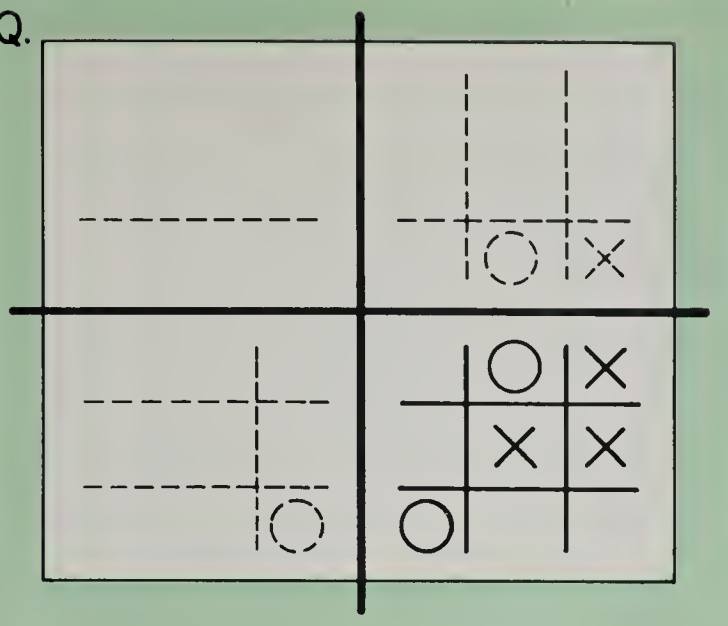

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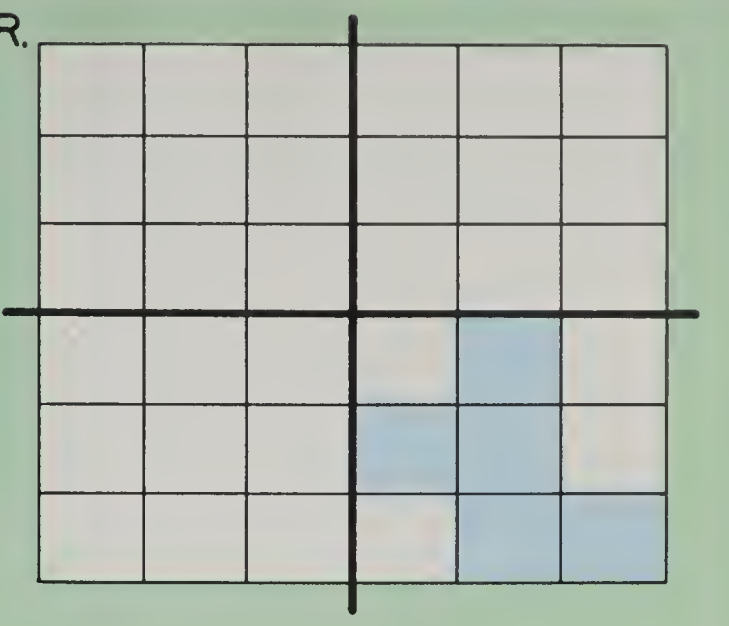

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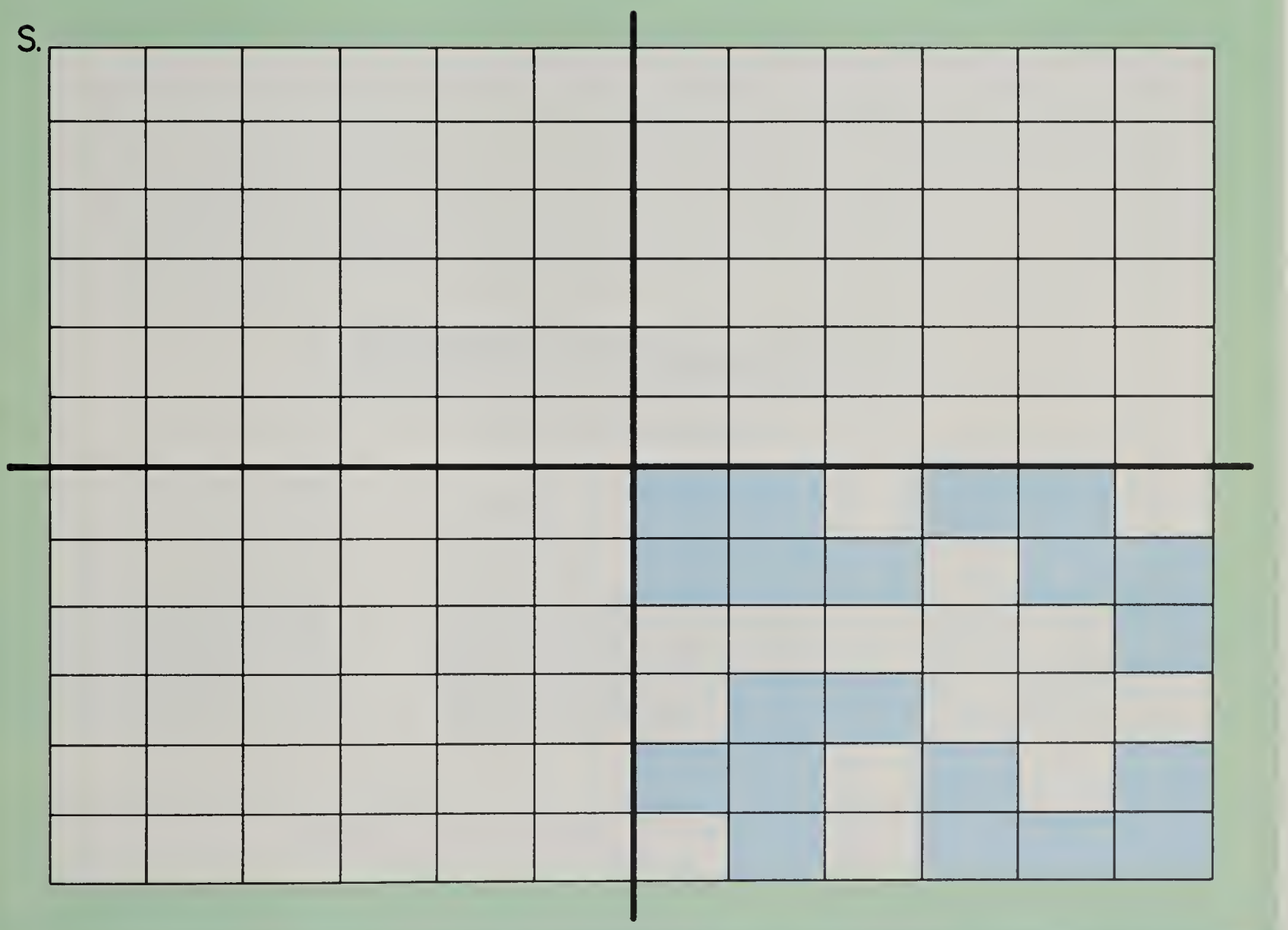


T.

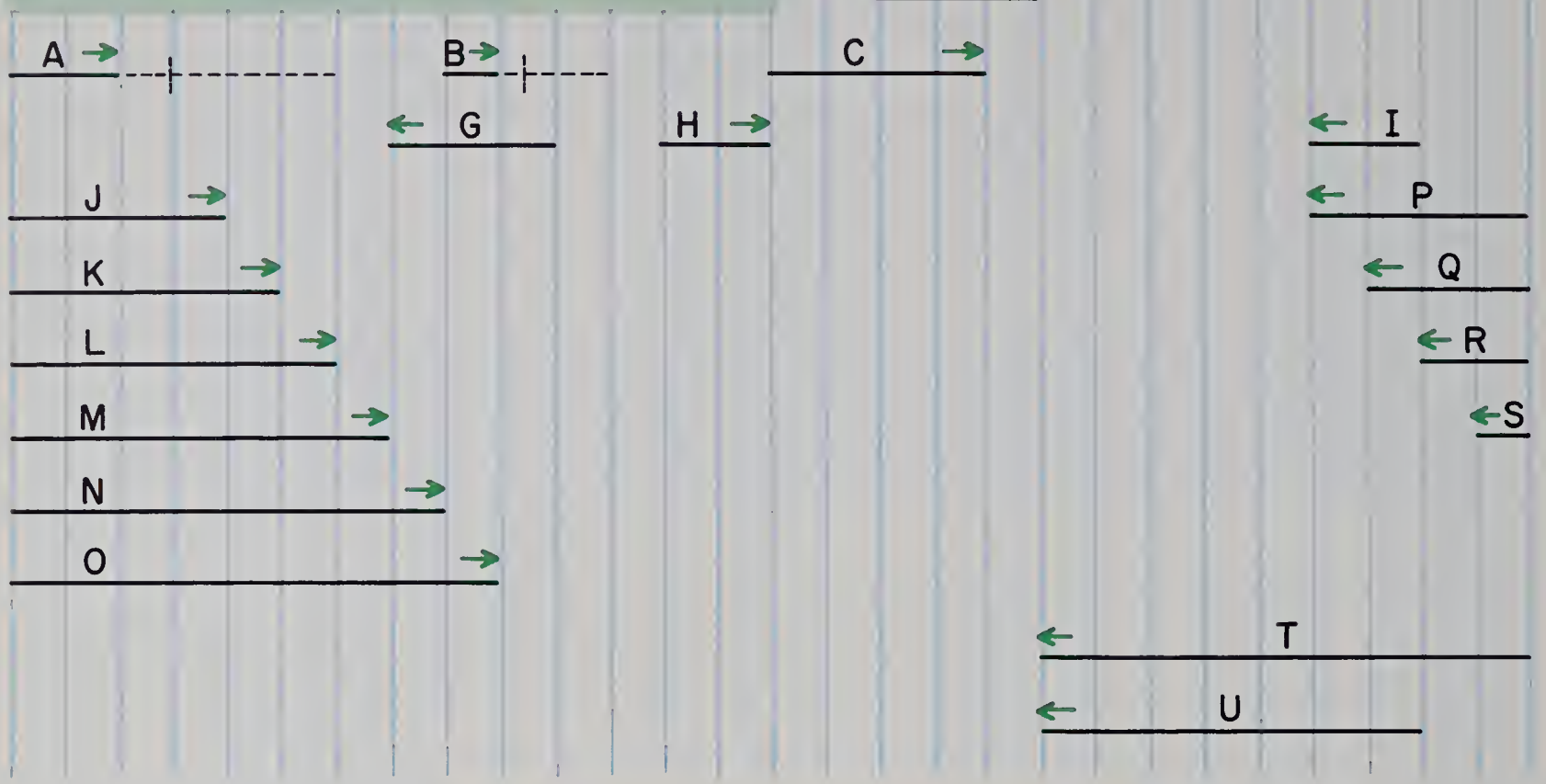
30	5	35
+40	+3	+43

50	8	58
+40	+7	+47

60	9	69
-40	-5	-45

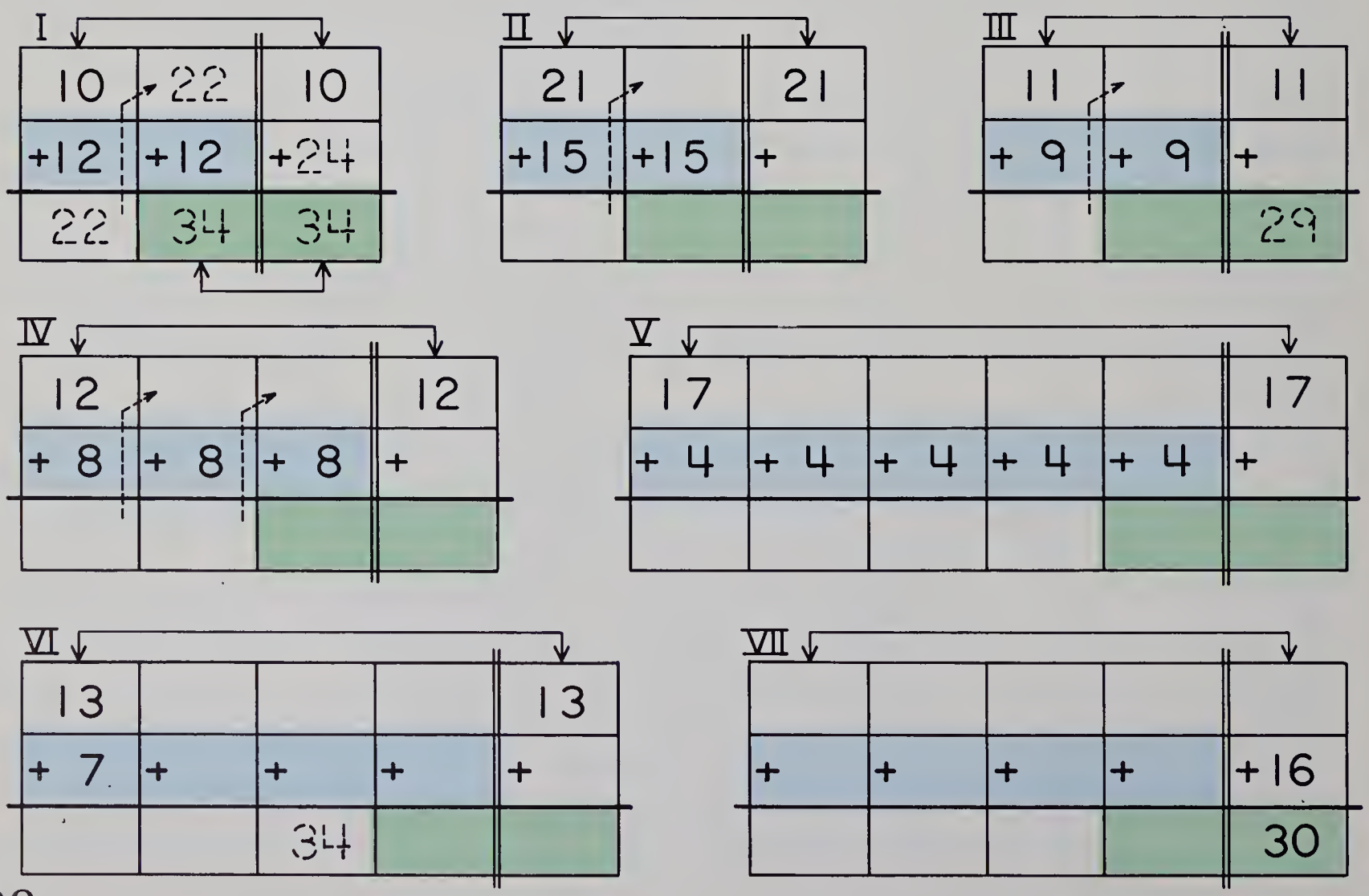
35 + 29 = ☐ 84 + ○ = 126 34 - △ = 25

Extend each line in the direction the arrow points so that the line becomes three times as long as shown. Then mark the center of the extended line.



A game called CHAIN ADDITION

What are the rules?



How Many Blocks?

blocks

A game called CHAIN SUBTRACTION

What are the rules?

A

12	7	12
- 5	- 5	- 10
7	2	2

B

17		17
- 6	- 6	-
11	5	5

C

11		11
- 4	- 4	-
		3

D

25	18		25
- 7	- 7	- 7	-

E

11					11
- 2	- 2	- 2	- 2	- 2	-
					1

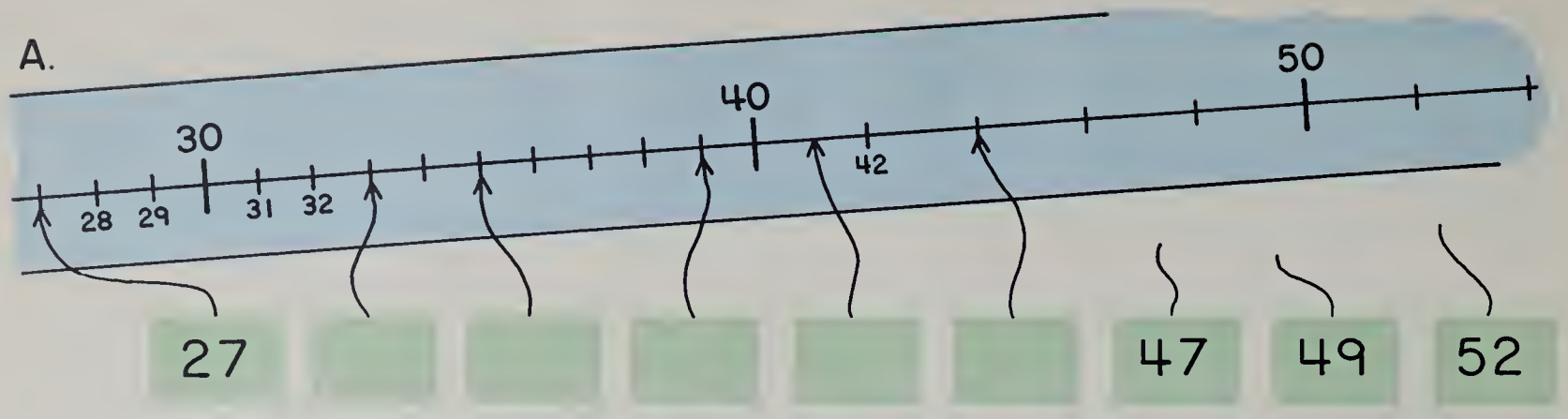
F

14				14
- 3	- 3	- 3	- 3	-

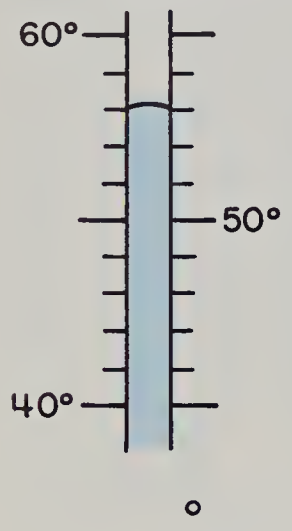
G

23				23
-	-	-	-	-
			3	3

A.

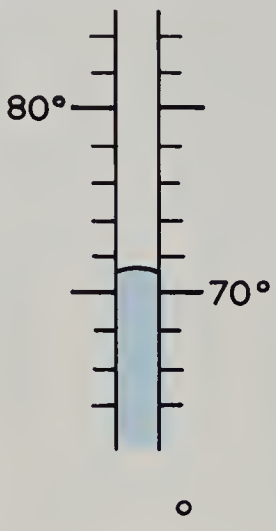


B.



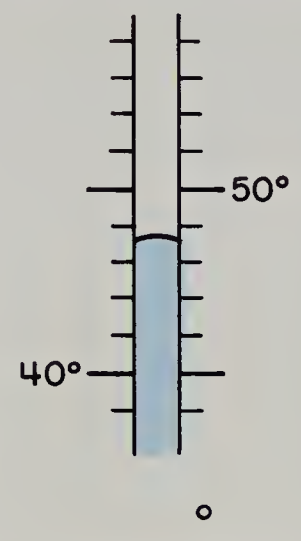
_____ above zero

C.



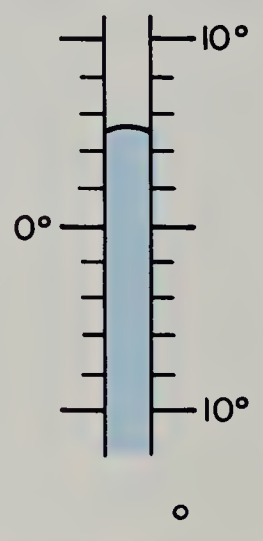
_____ above zero

D.



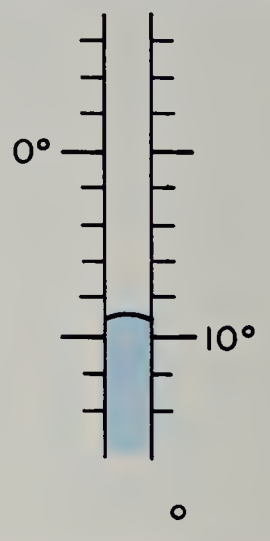
_____ above zero

E.



_____ above zero

F.



_____ below zero

CHAIN ADDITION

① 36 | +16 | +16 | +16 | +16 | + | 36

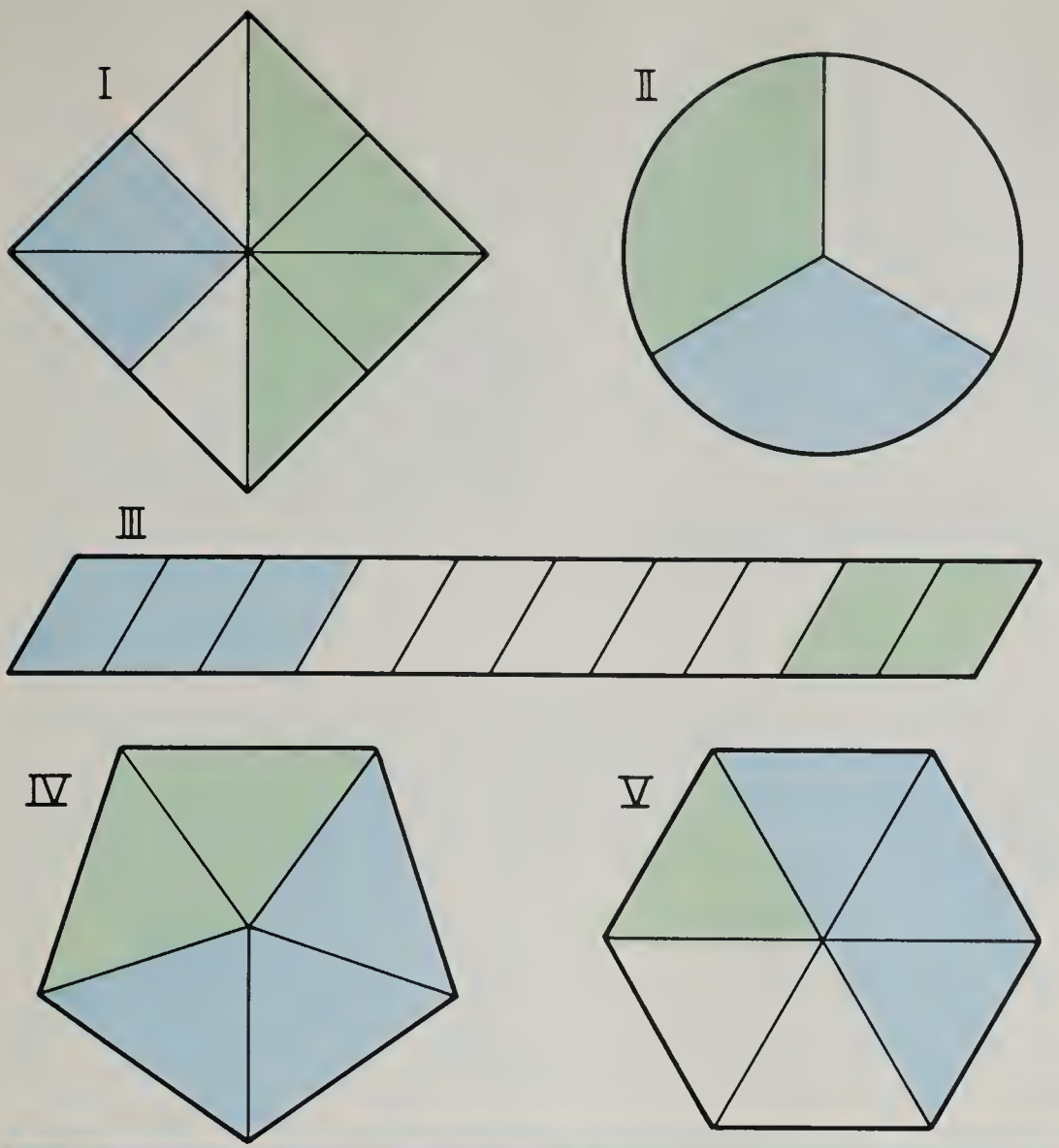
② 19 | + 7 | + 7 | + 7 | + 7 | + | 19

③ 12 | + | + | + | + | + | 12 | 32

④ 8 | +23 | +23 | +23 | +23 | + | 8

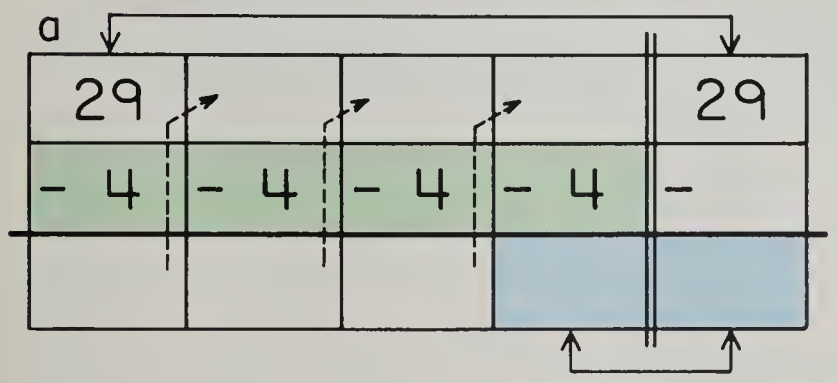
⑤ + | + | + | + | +24 | 41 | 41

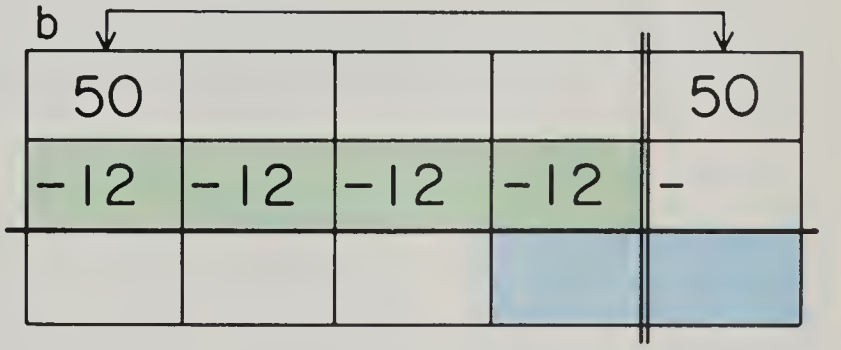
⑥ + 8 | + 8 | + 8 | + 8 | + | 42 | 42

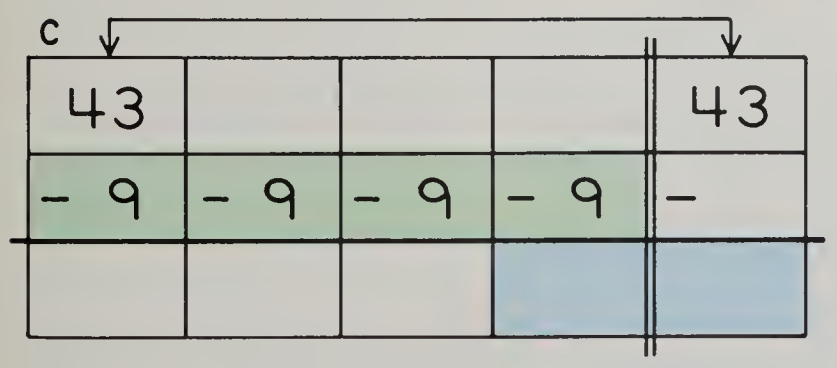


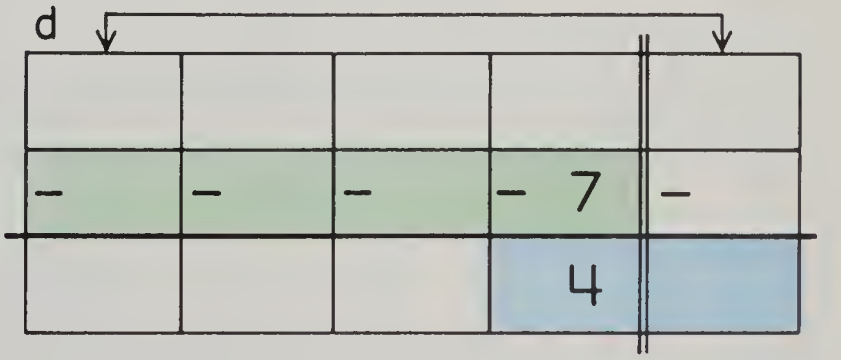
	Part shaded green	Part shaded blue	Part not shaded
I			
II			
III			
IV			NONE
V			

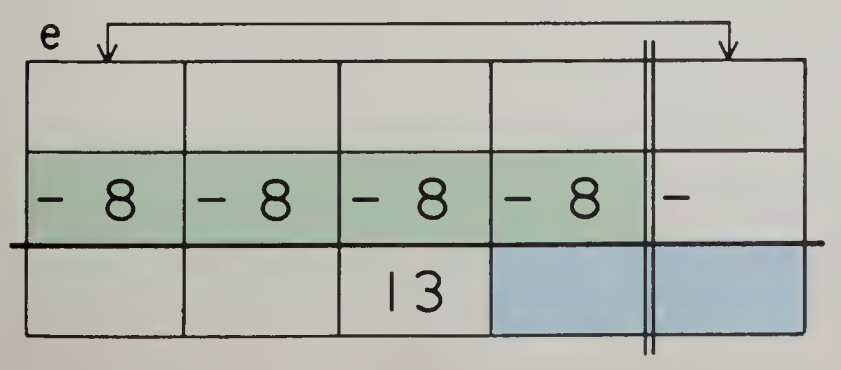
CHAIN SUBTRACTION

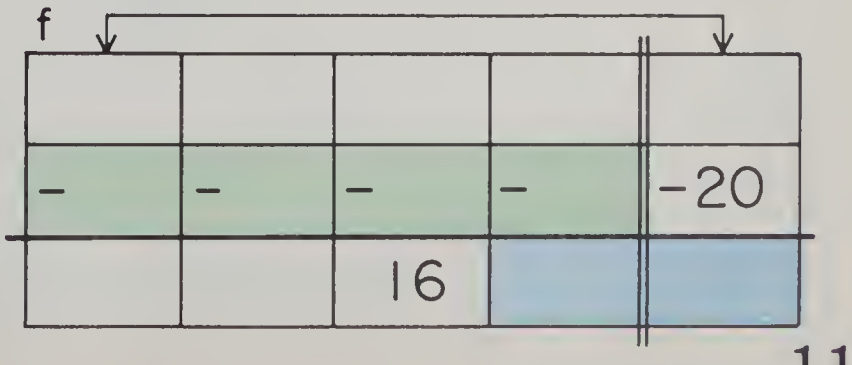






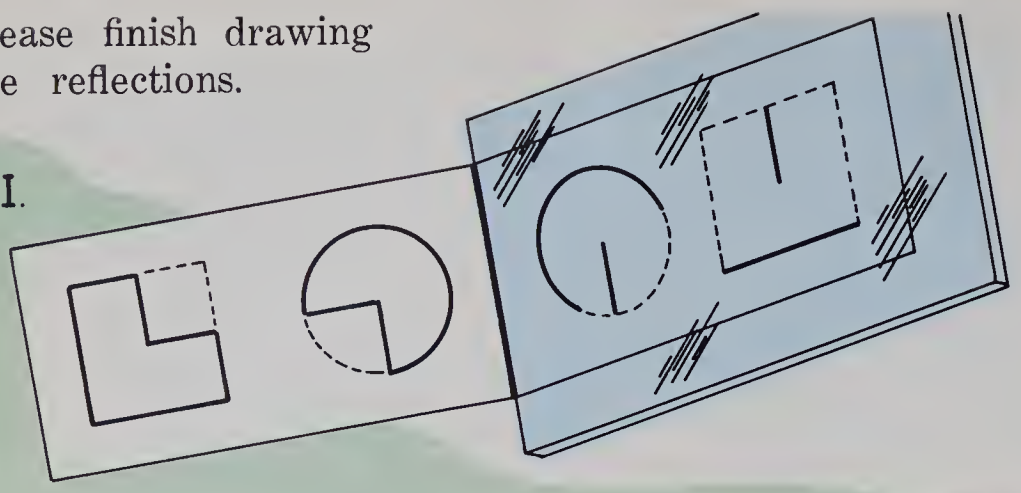






Please finish drawing the reflections.

I.



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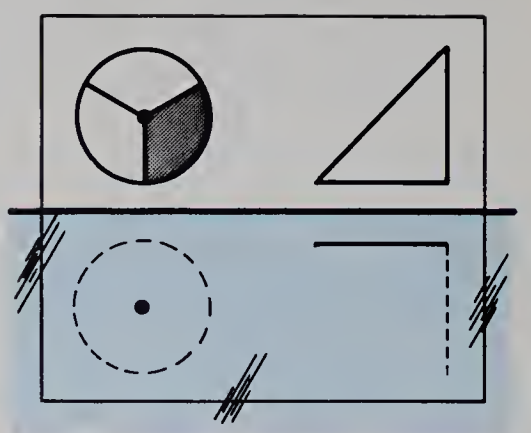
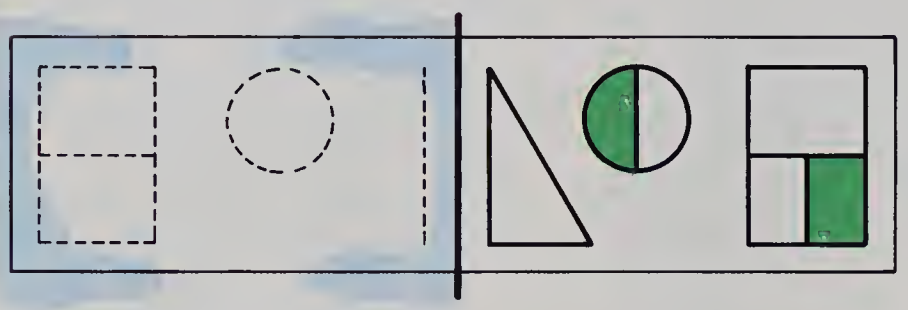
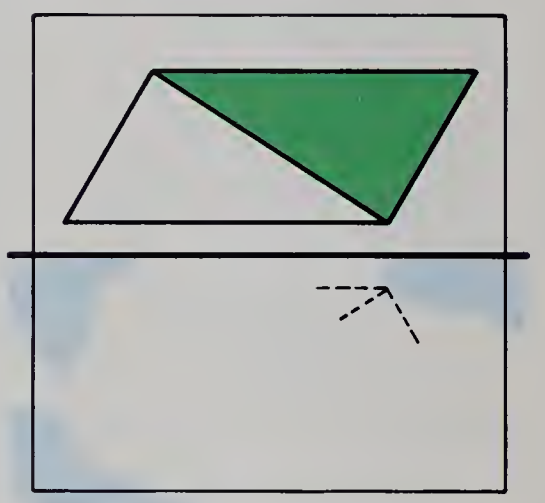


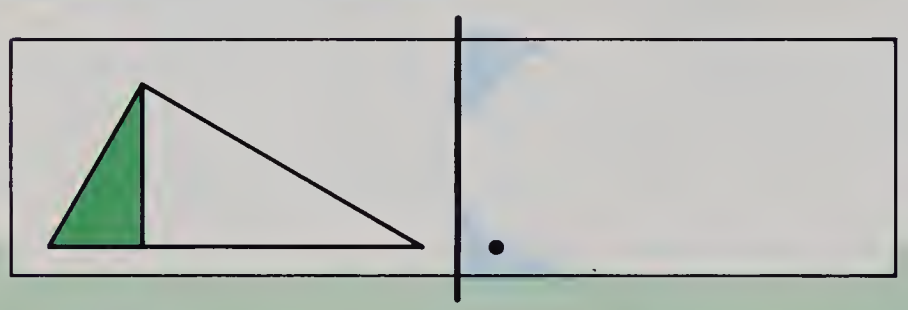
III.



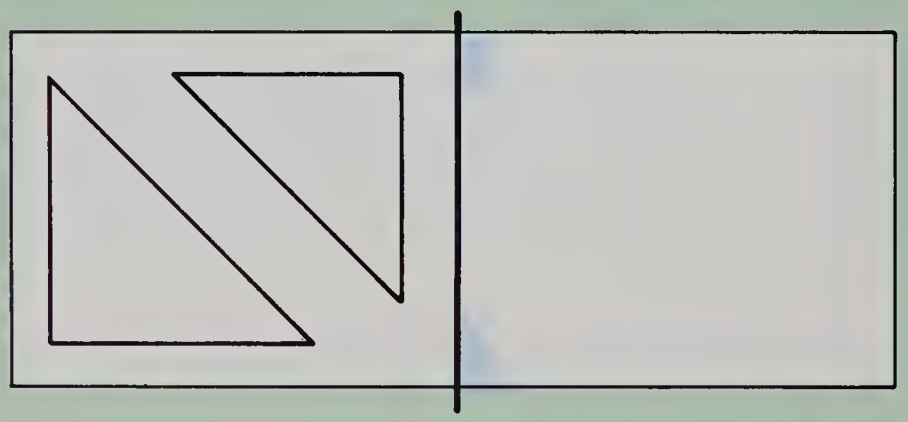
IV.



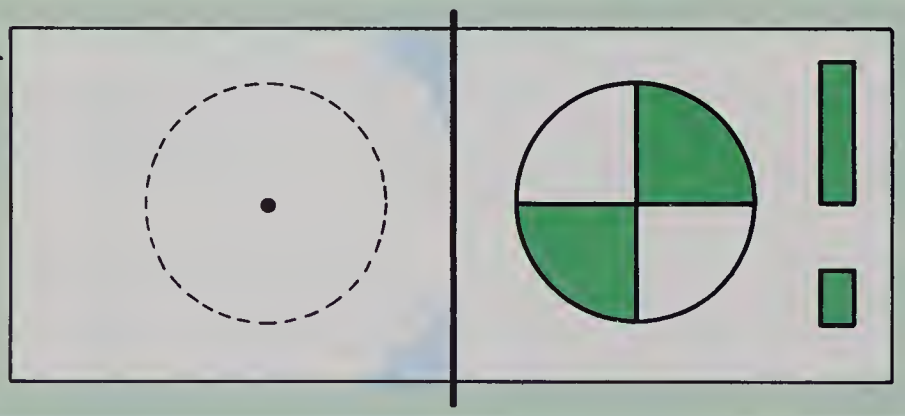
V.



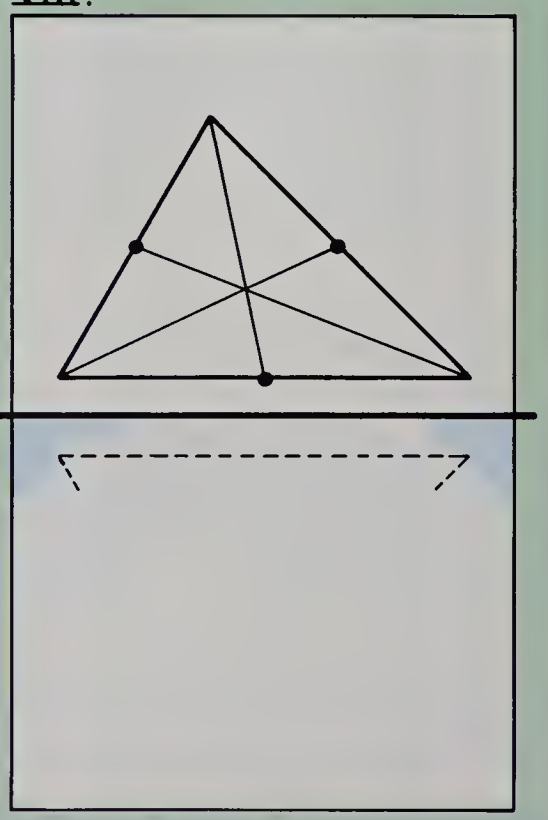
VI.



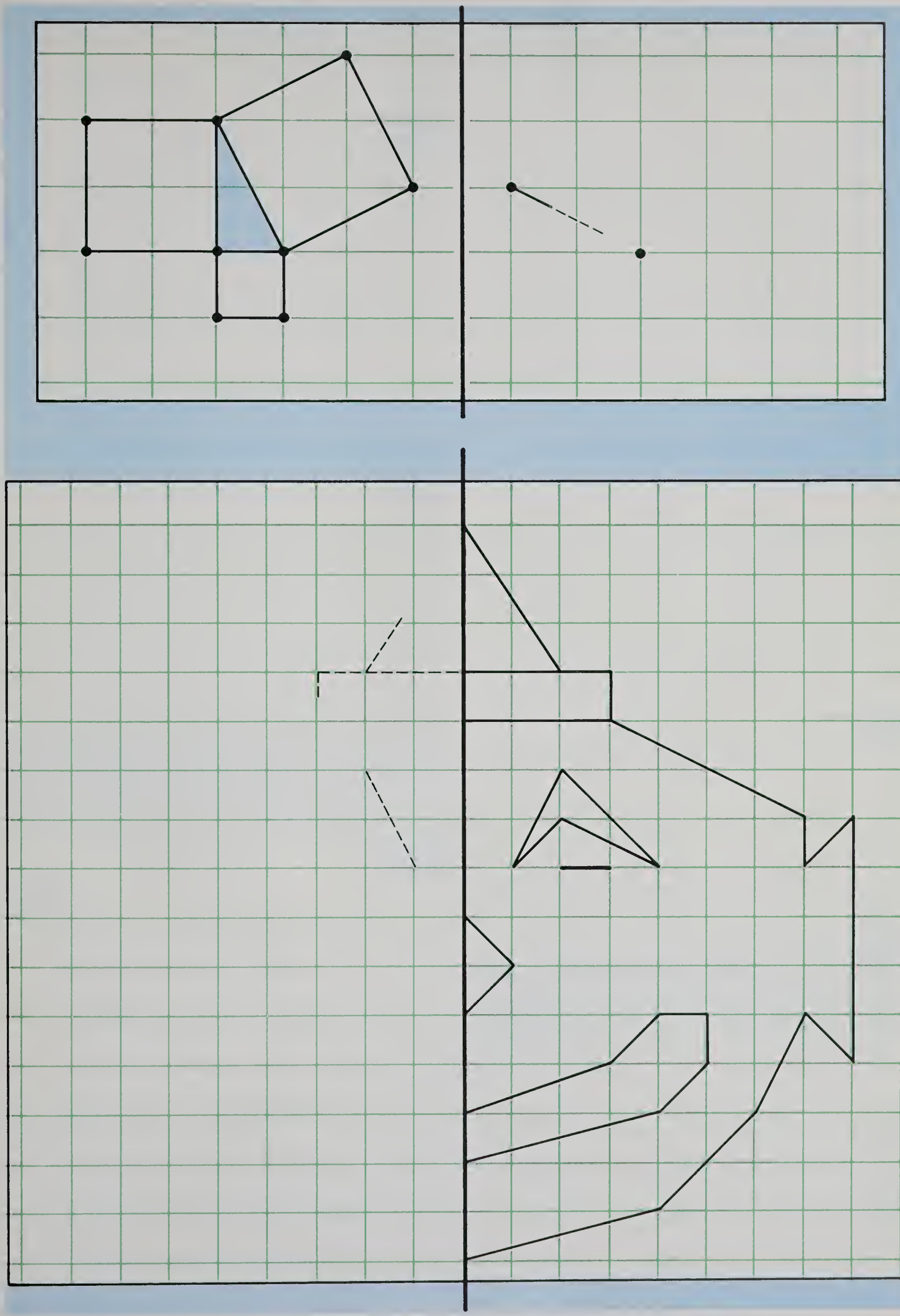
VII.



VIII.



IX. What's My Rule? 3 , 6 , ___ , 12 , ___ , ___ , ___ , ___



ALL ABOUT COINS:
pennies, nickels, dimes and quarters.

A

5¢ can be made with two different combinations of coins. A nickel is worth 5¢. Five pennies are worth 5¢. We can record this in this way.

(1) 0 p, 1 n.

(2) 5 p, 0 n.

B

10¢ can be made in four ways.

(1) 10 p, 0 n, 0 d.

(2) 0 p, 0 n, 1 d.

(3) 5 p, ___ n, 0 d.

(4) ___ p, ___ n, ___ d.

C

8¢ can be made in two ways.

(1) ___ p, ___ n.

(2) ___ p, ___ n.

D

12¢ can be made in four ways.

(1) ___ p, ___ n, ___ d.

(2) ___ p, ___ n, ___ d.

(3) ___ p, ___ n, ___ d.

(4) ___ p, ___ n, ___ d.

E

15¢ (Six ways)

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

F

18¢ (Six ways)

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

G

20¢ (Nine ways)

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

___ p, ___ n, ___ d.

25¢ (Thirteen ways) H

___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.

Did you use the same number of coins in any two combinations?

28¢ I

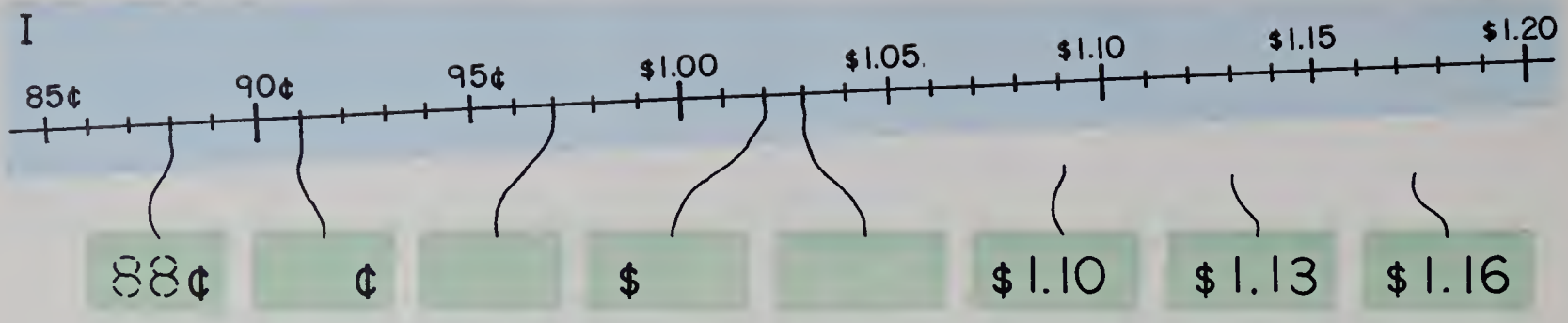
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.

30¢ J

___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.
___ p, ___ n, ___ d, ___ q.

Did you use the same number of coins in any two combinations?

I



II

Find the sum	13¢	21¢	33¢	54¢	87¢	$1.41
9¢						
29¢					$1.16	
38¢						
	75¢					
				$1.54		
		$1.83				

WATCH THE SIGNS

A

50	+		= 63
−		−	−
20	+		= 25
=		=	=
	+		=

B

80	−		= 60
−		−	−
	−	7	=
=		=	=
	−		= 37

C

40	−		=
+		+	+
	−	9	=
=		=	=
56	−	19	=

D

41	−		= 36
−		+	−
15	+		=
=		=	=
	−	9	=

E

	+		= 74
−		−	−
9	+		= 39
=		=	=
5	+		=

F

	+		= 52
−		−	−
20	+		= 28
=		=	=
20	+		=

1 | 2

Label the longest amount of time with an A in the blue box; next longest with a B; next with a C; and the shortest with a D.

Four weeks .....

Twenty-five days .....

The month of April .....

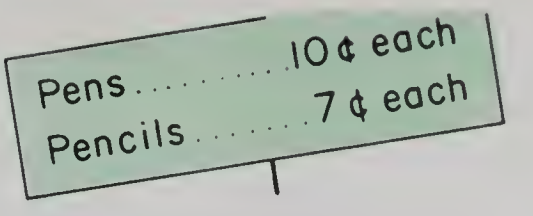
Thirty-five days .....

Find SUMS of amounts indicated:

A and B: ____ da. C and D: ____ da.

B and C: ____ da. B and D: ____ da.

A and C: ____ da. A and D: ____ da.



Alice gave the clerk 50¢ to pay for a purchase of items listed above.

Indicate what she might have bought and the cost. Also show the amount of change.

	Number of Pens @ 10¢	Number of Pencils @ 7¢	Total Cost	Amount of change from 50¢
A	1	1	17¢	¢
B			34¢	¢
C	1		¢	12¢

25
− 5

(A) 19 (B) 20 (C) 25 (D) 30

Mark the correct answer.

Mark the furthest from the correct answer.

A B C D

Difference between the answers you marked

3 Which is largest?

(A) 43 (C) 25

(B) 52 (D) 34

A B C D _____

4 What number comes next in this series?
14, 20, 26, 32, 38,

(A) 50 (C) 44

(B) 48 (D) 40

A B C D _____

5 Which is largest?

(A) One hundred twenty-one

(B) Fifty plus fifty

(C) Ninety

(D) One hundred nineteen

A B C D _____

6 Which is longest?

(A) Thirty-one inches

(B) One yard

(C) One and one-half feet

(D) Nineteen inches

A B C D _____

7

12
23
9
+18

(A) 45

(B) 51

(C) 62

(D) 73

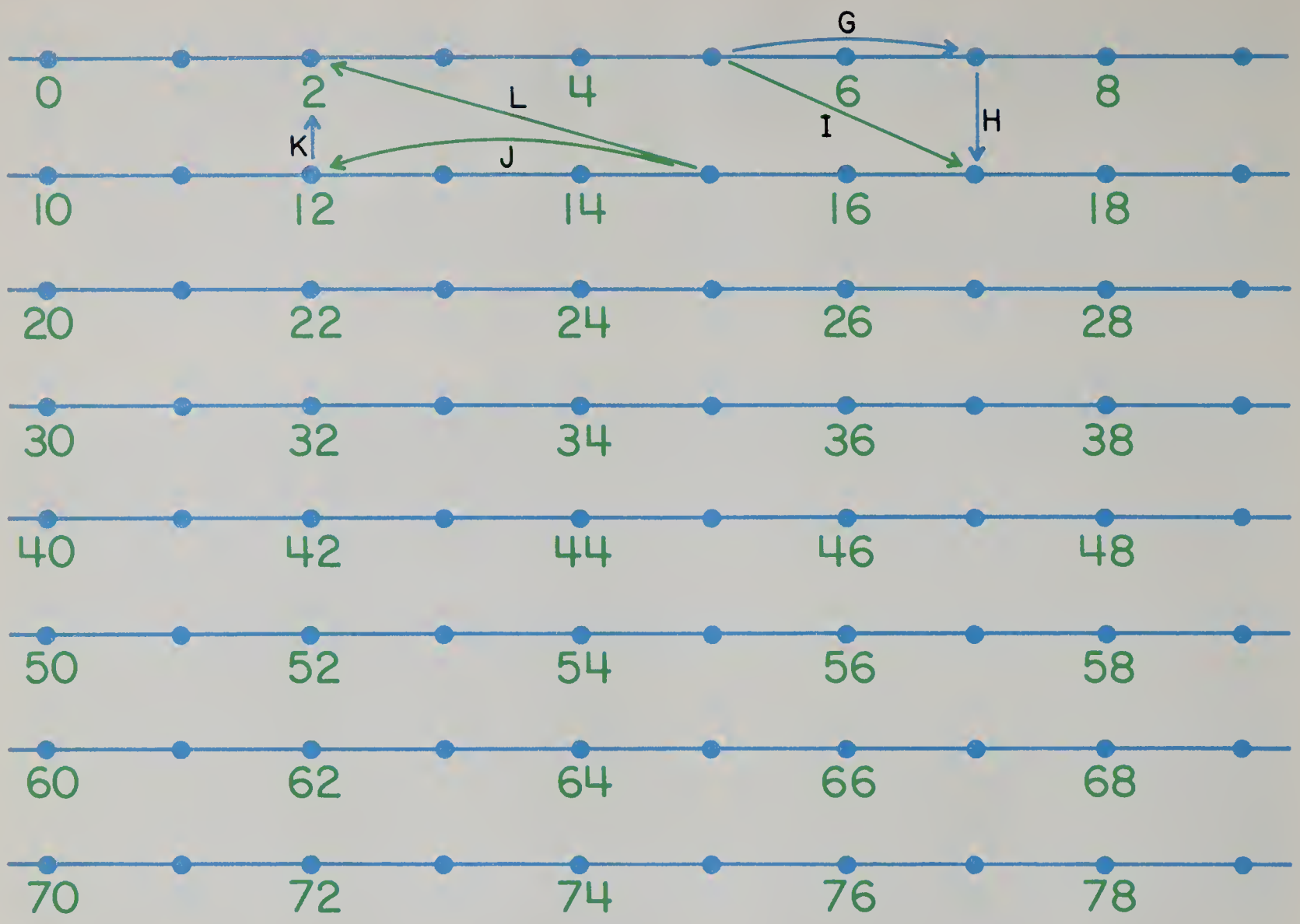
A B C D _____

8 Nancy gave the clerk one dollar for a sixty-five cent purchase.
How much change should she get?

(A) 65¢ (C) 45¢

(B) 44¢ (D) 35¢

A B C D _____



G

5	→	7	
17	→		
	→	25	
49	→		

H

7	→	17	
19	→		
25	→		
	→	61	

I

5	→	17	
17	→		
23	→		
49	→		

J

15	→		
34	→		
40	→		
31	→		

K

	→	2	
	→	21	
37	→		
28	→		

L

15	→		
34	→		
40	→		
31	→		

Price List	
Milk	7¢ a carton
Sandwiches	12¢ each
Pie	15¢ a piece

Mr. Barnes worked at a food counter where they used the price list shown on the left. He kept a record of each sale he made. He used M for milk, S for sandwiches, and P for pie.

No one bought more than 2 of any item.

Fill in the missing entries in his record:

0 M; 1 S; 1 P ..... 27¢	2 M; 0 S; 1 P ..... 29¢
___ M; 0 S; 0 P ..... 14¢	1 M; 2 S; 1 P ..... ___¢
1 M; 1 S; 1 P ..... ___¢	___ M; ___ S; ___ P ..... 15¢
___ M; ___ S; ___ P ..... 19¢	___ M; ___ S; ___ P ..... 22¢
___ M; ___ S; ___ P ..... 26¢	___ M; ___ S; ___ P ..... 37¢
___ M; ___ S; ___ P ..... 54¢	___ M; ___ S; ___ P ..... 68¢

WATCH THE SIGNS!

A

50	−	17	=
−		+	−
20	+	4	=
=		=	=
	−		=

B

	−		=
+		+	+
	−	20	= 40
=		=	=
71	−	28	=

C

	+		=
+		−	+
	−	9	= 14
=		=	=
	+	22	= 65

D

	+	10	= 50
−		−	−
	+		= 33
=		=	=
10	+		=

E

	+	10	= 100
−		−	−
	+	8	= 68
=		=	=
	+		=

F

	+	14	= 124
−		−	−
	+	9	= 79
=		=	=
	+		=

WHAT'S MY RULE?

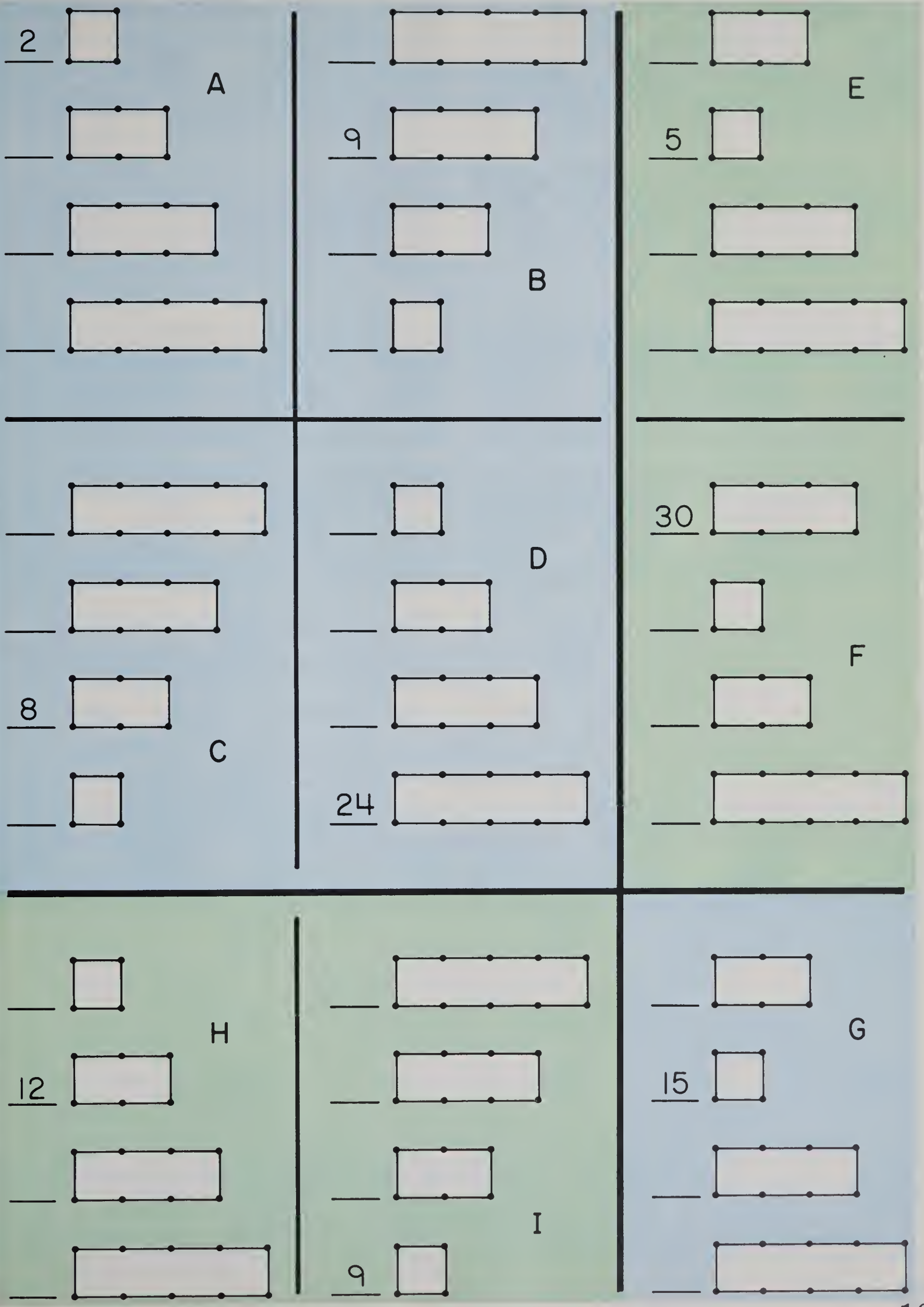
All you need is
a green crayon.

1.					1	1
2.				2	1	2
3.				2	1	3
4.		4	2	1		4
5.		4	2	1		5
A.		4	2	1		6
B.		4	2	1		7
C.	8	4	2	1		8
D.	8	4	2	1		9
E.	8	4	2	1		10
F.	8	4	2	1		11
G.	8	4	2	1		12
H.	8	4	2	1		13
I.	8	4	2	1		14
J.	8	4	2	1		15

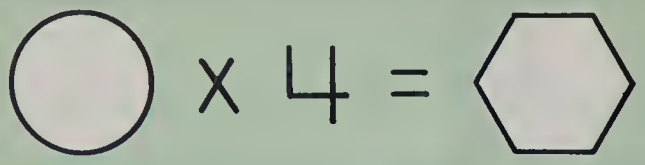
K.	16	8	4	2	1	16
L.	16	8	4	2	1	17
M.	16	8	4	2	1	18
N.	16	8	4	2	1	19
O.	16	8	4	2	1	20
P.	16	8	4	2	1	21
Q.	16	8	4	2	1	22
R.	16	8	4	2	1	23
S.	16	8	4	2	1	24
T.	16	8	4	2	1	25
U.	16	8	4	2	1	26
V.	16	8	4	2	1	27
W.	16	8	4	2	1	28
X.	16	8	4	2	1	29
Y.	16	8	4	2	1	30
Z.	16	8	4	2	1	31

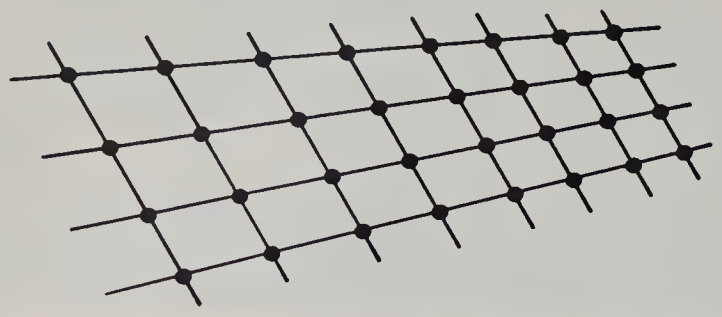
I	4	2	1	42
	32	16	8	
II	4	2	1	36
	32	16	8	
III	4	2	1	48
	32	16	8	
IV	4	2	1	50
	32	16	8	
V	4	2	1	39
	32	16	8	
VI	4	2	1	40
	32	16	8	
VII	4	2	1	30
	32	16	8	
VIII	4	2	1	58
	32	16	8	
IX	4	2	1	63
	32	16	8	
X			1	64
	32			

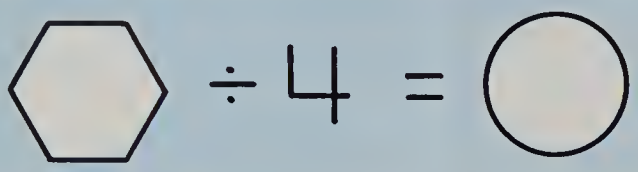
CROSS NUMBER PUZZLE



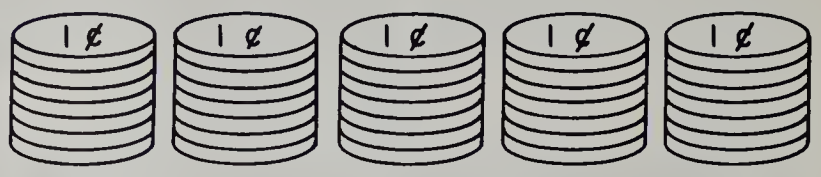
A

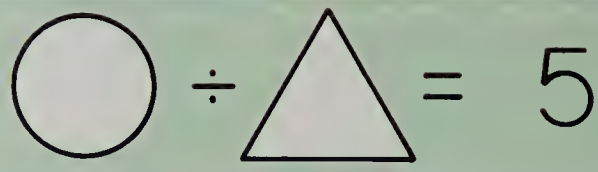




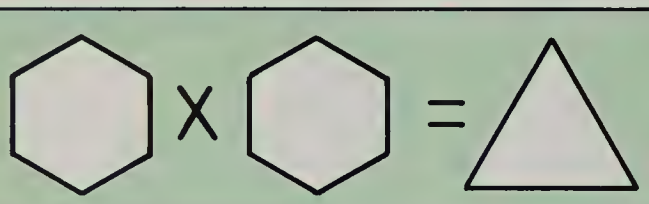


B

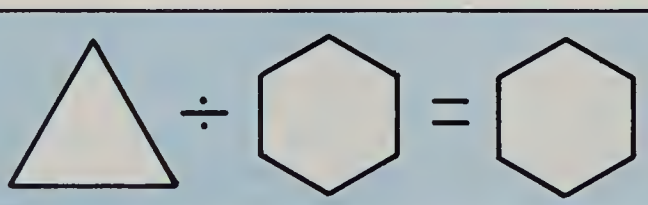




C



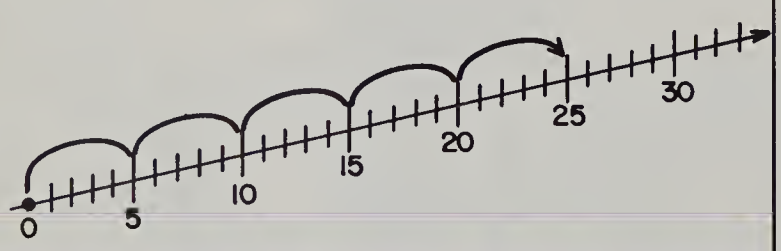
Harry put a penny in his bank each day for seven weeks. In that time he had saved _____ ¢.



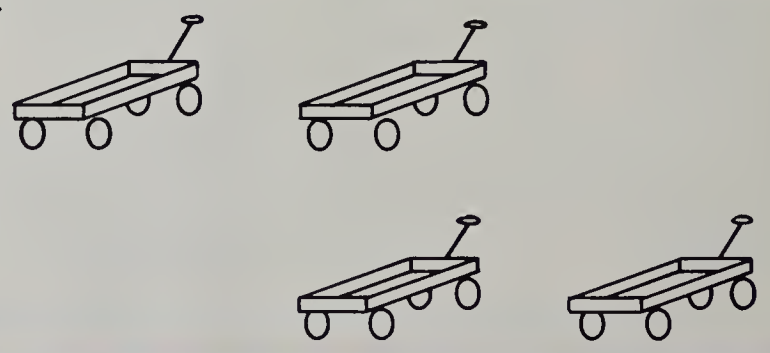
D

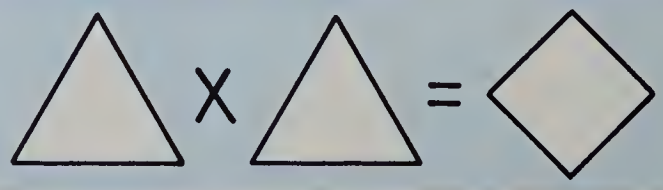
There were twenty children in the class. When they lined up by twos, there were _____ couples.

E



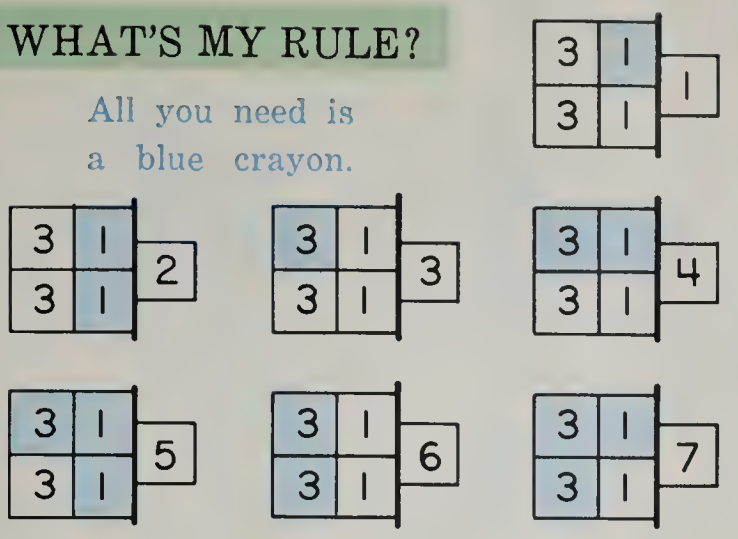
F

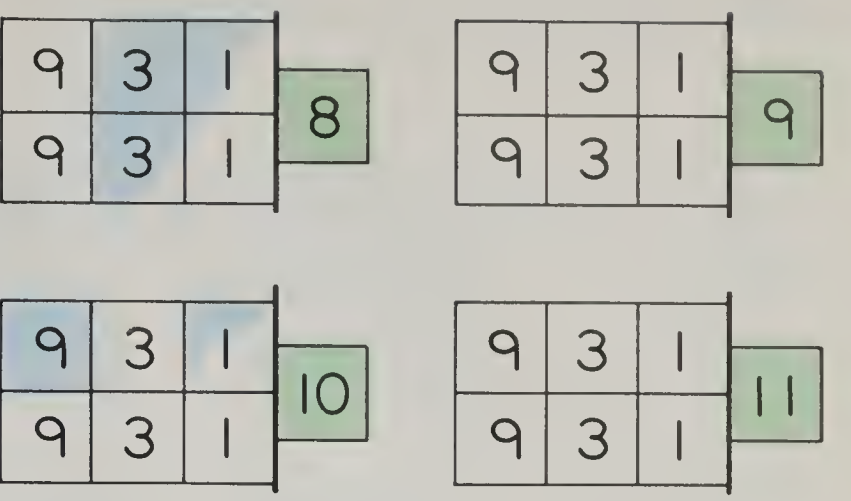


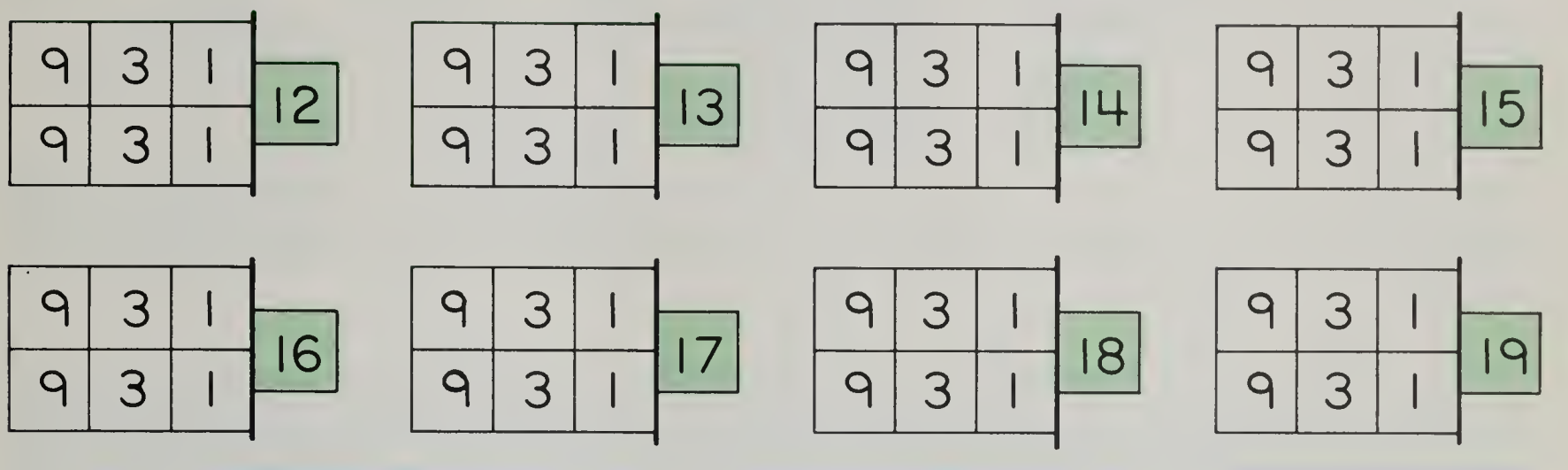


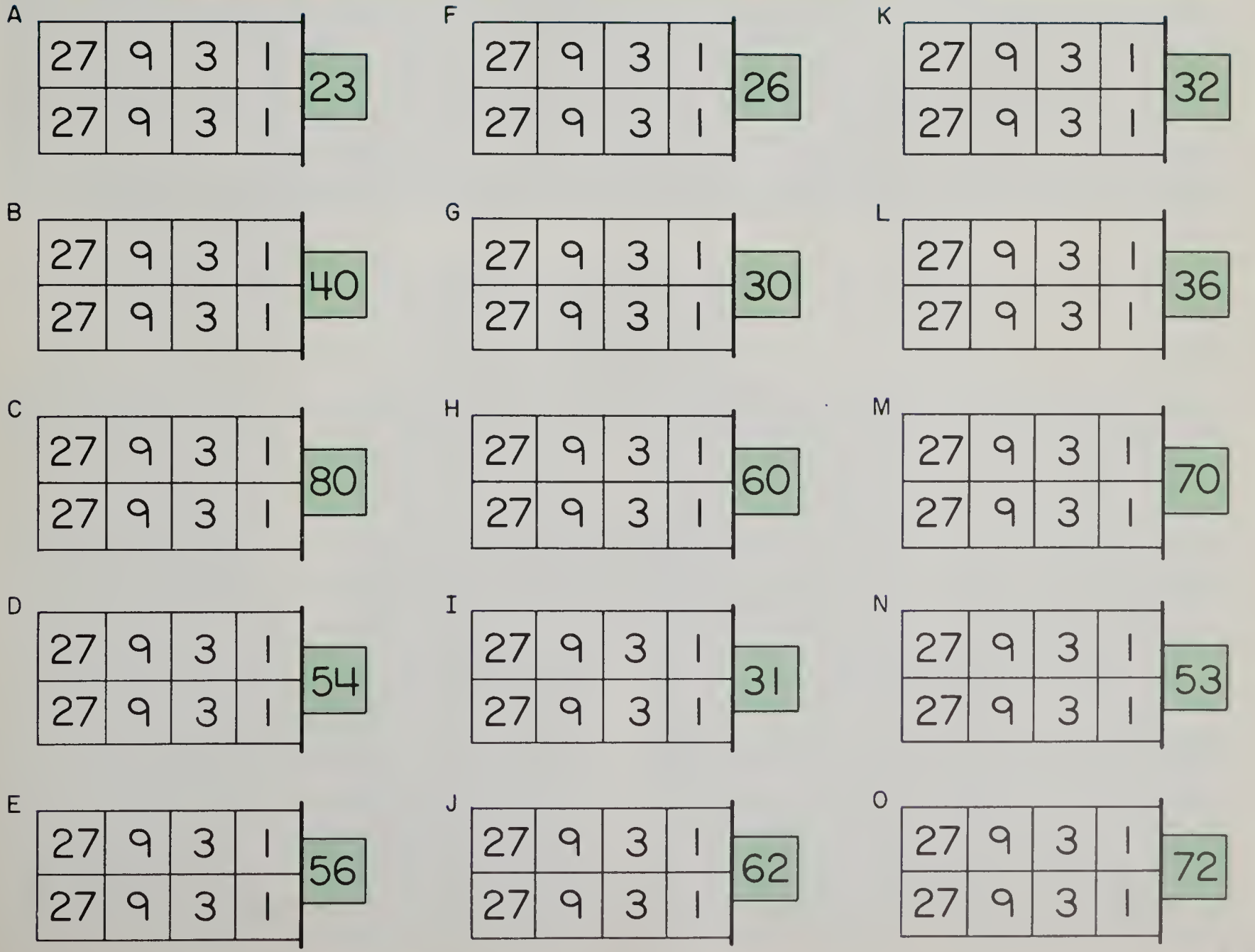
WHAT'S MY RULE?

All you need is a blue crayon.









I A PATTERN OF GROWTH.

a. 1, 3, 6, ___, ___, ___, ___, ___, ___, 55

b. 2, ___, ___, ___, ___, ___, ___, ___, 90, ___

c. 3, ___, ___, ___, ___, ___, ___, ___, ___, 165

d. 5, ___, ___, ___, ___, ___, ___, ___, 225, ___

II What Are My Rules?

	A			B			C			D		
m	40	6			10	30	40	13	53			74
n	10			10		17			38	20		29
m − n	30	2	32	10	3		10			40	5	
m + n	50		60					21			23	

III Twice as much

30 minutes → ___ hour

8 inches → ___ ft., ___ in.

5 days → ___ wk., ___ da.

___ cents → 36 ¢

13 hours → ___ da., ___ hrs.

___ ft., ___ in. → 2 ft., 6 in.

3 quarts → ___ qts., ___ pt.

IV Three times as much

8 eggs → 2 dozen eggs

4 inches → ___ ft., ___ in.

___ hours → 1 day

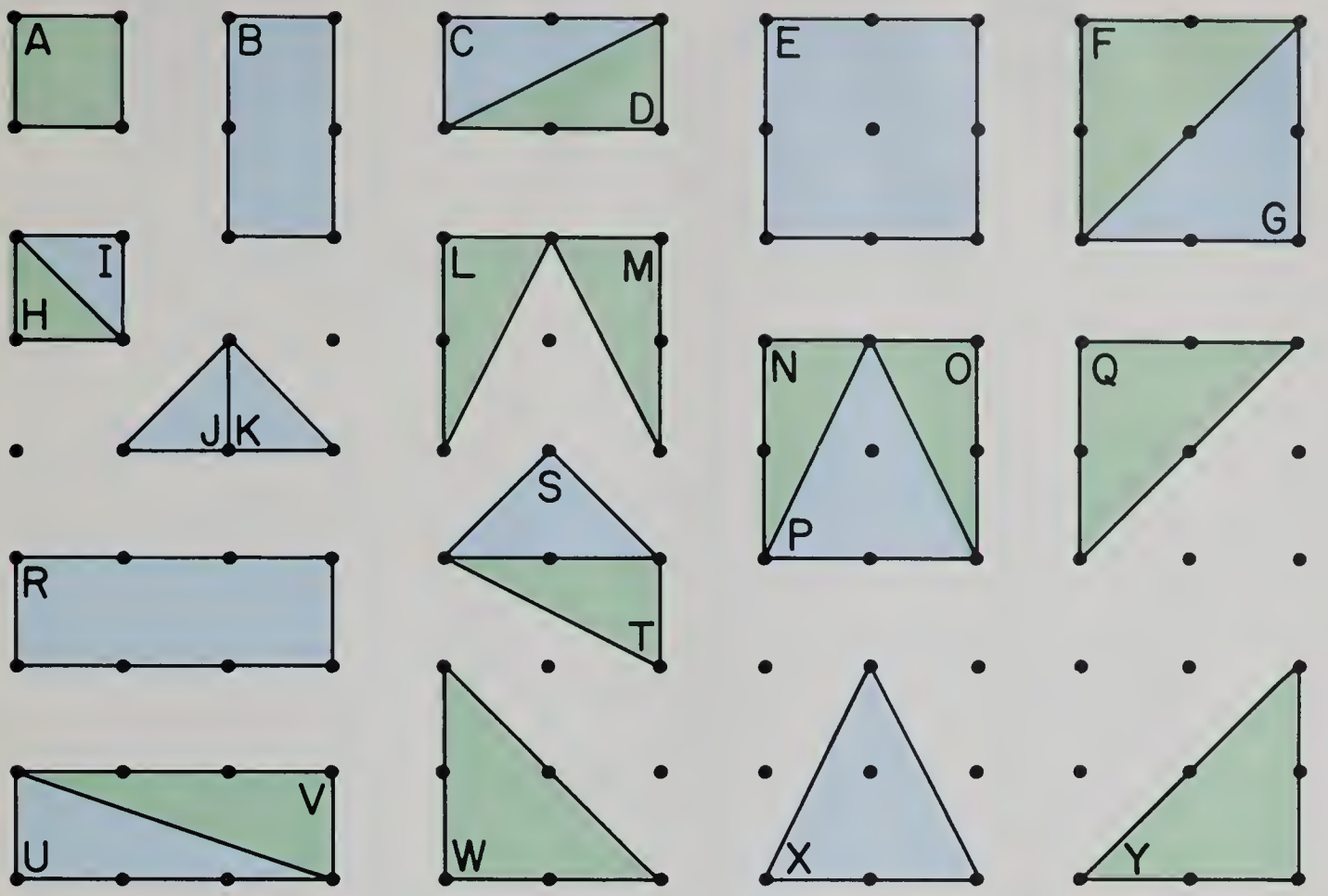
___ days → 2 wks., 1 day

___ ¢ → $1.50

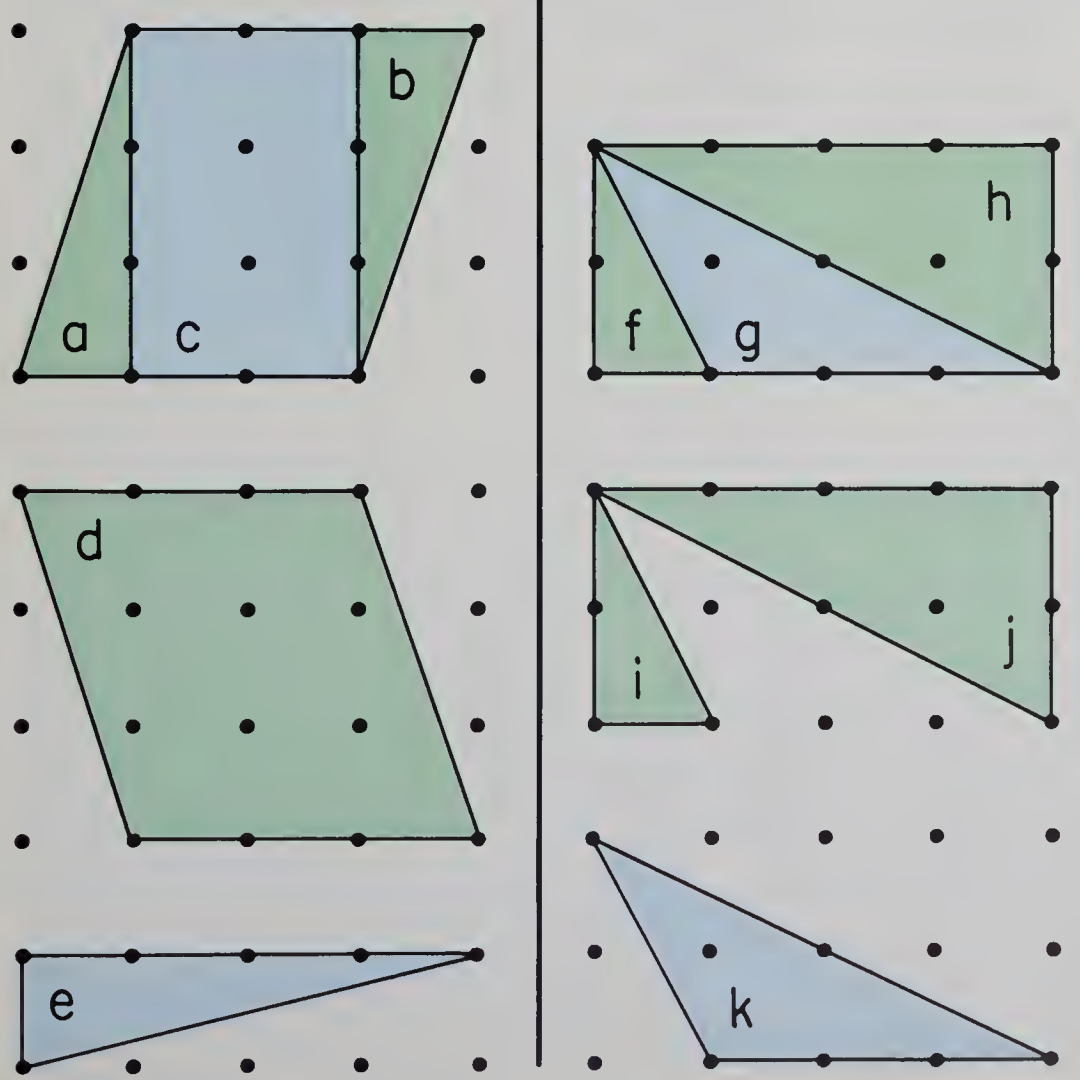
___ ounces → 1 lb., 5 oz.

$1.15 → $ _____

FIND THE AREAS

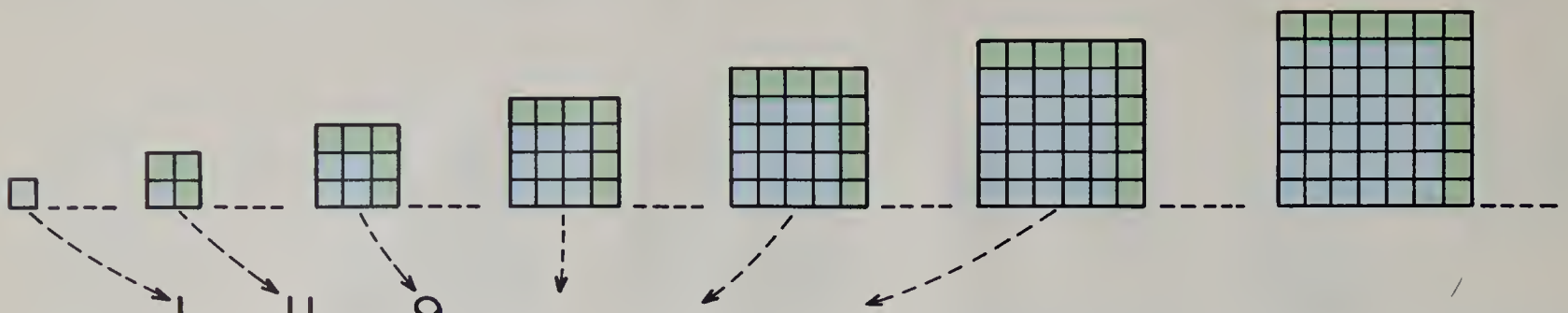


A	1
B	2
C	
D	
E	
F	
G	
H	$\frac{1}{2}$
I	
J	
K	
L	
M	
N	
O	
P	
Q	
R	
S	
T	
U	
V	
W	
X	
Y	



a	
b	
c	
d	
e	
f	
g	
h	
i	
j	
k	

I A PATTERN OF GROWTH.



a. 1, 4, 9, ___, ___, ___, ___, ___, ___, ___

b. 2, ___, ___, ___, ___, ___, ___, ___, ___, ___

c. 3, ___, ___, ___, ___, ___, ___, ___, ___, ___

d. 4, ___, ___, ___, ___, 144, ___, ___, 324, ___

II Half as much

1 foot	→	6 inches
1 hour	→	___ minutes
___ ¢	→	25 ¢
1 wk., 5 days	→	___ days
___ hr., ___ min.	→	40 minutes
1 dozen eggs	→	___ eggs
$1.50	→	___ ¢
2000 miles	→	_____ miles

III One-third as much

30 ¢	→	10 ¢
1 dozen eggs	→	___ eggs
2 wks., 1 day	→	___ days
1 yard, 0 in.	→	___ ft., ___ in.
1 hour	→	___ minutes
1 foot	→	___ inches
39 miles	→	___ miles
$1.50	→	___ ¢

IV What Are My Rules?

	A			B			C			D		
q	10	3	13	20		25		1	31		20	
r	10	8	18			34	10		17		30	38
s	10	7	17	10	5		10		16	1		11
t	10	2	12	10		16		3	23	2		12
q + r + s + t	40			70	20						70	90
q + s		10			10	40	40	7		10		
r + t	20					50	30	10		10	40	

I

a. □

b. □□□□

c. □□□□□□□

d. □□□□□□□□□

e. □□□□□□□□□□□□

	a.	b.	c.	d.	e.	f.	g.	h.
If 1, then	4	7						
If 2, then	8							
If 3, then	12							

II

	A			B			C			D		
x	5	40		7		37	6	50	56			48
y	5		25	3	20			10	16		5	
z	4	0	4		10	12	5			10		
x + y + z		60	74	12	60	72				70	16	86
x − y					10		0			20		
y − z		20		1		11		0				12
x − z			41						41		5	

III Twice as much

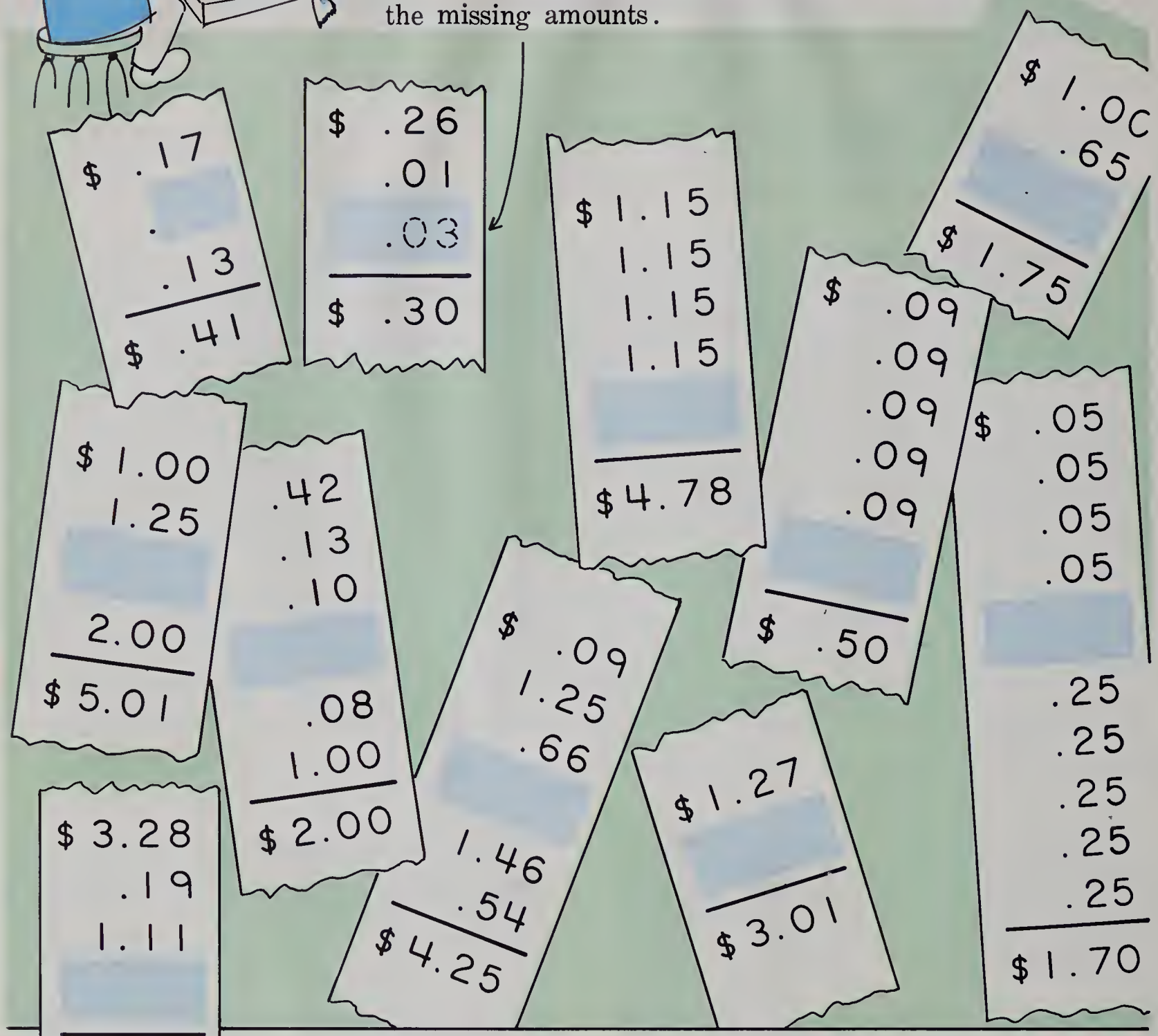
6 inches	→	___ foot
8 inches	→	1 ft., 4 in.
25 cents	→	___ cents
___ inches	→	1 foot, 10 inches
40 minutes	→	___ hr., ___ min.
4 days	→	___ wk., ___ da.
___ eggs	→	1 dozen eggs
___ days	→	1 week, 5 days
___ cents	→	1 dollar, 50 cents

IV Half as much

1 foot, 6 inches	→	0 ft., 9 in.
3 hours	→	1 hr., 30 min.
2 wks., 4 days	→	___ wk., ___ da.
$1.20	→	___ ¢
___ day	→	12 hours
1 quart	→	___ pint
1 yard	→	___ ft., ___ in.
1 year, 2 months	→	___ months
1 gallon	→	___ quarts

not printing
blue blocks

Numo collected the mistakes. Please supply the missing amounts.



What Are My Rules?

x	4	10	9	5	6		5	7					
y	3	4	9	2	4	3							
x + y	7	14	18					13	17		0	15	
x − y	1	6	0				0	1	13	9			0
x · y	12	40	81			21				10		36	49

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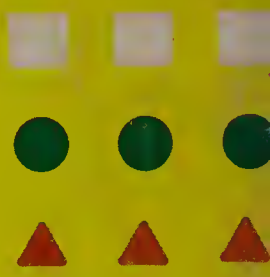

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